

# Manufacturers Record

## Industry Construction

\$6.50 per Year  
Single Copy, 20 Cents

Baltimore, Md.  
JULY 30, 1931

## Refuse Russia's Products

Soviet Russia's principal exports are such primary products as wheat, cotton, lumber, oil, coal and manganese. Its plan has been to undersell every market in the world at any price it can get and this is of particular concern to the Southern States.

The South furnishes 47 per cent of this country's lumber; 40 per cent of the coal; 63 per cent of the oil, which is 40 per cent of the world's supply. The South likewise furnishes 95 per cent of this country's cotton, or 54 per cent of the world's supply.

Through cotton exports, the South has always contributed vitally to the maintenance of this nation's favorable foreign trade balance. Russia's exports of cheap cotton, while amounting to only 150,000 bales, have tended to further the depression of world cotton prices. In the meantime, the Soviet has increased its cotton area this year to more than 6,000,000 acres, or a gain of 60 per cent over 1930. Such a supply, offered at any price that can be obtained, is a constant threat to American growers.

Cheap Russian manganese imported into this country has been a factor in stopping the development of the manganese industry in the South. The dumping of Russian wheat on American markets has been detrimental to the whole country and particularly to the Southwest which produces a large part of our total crop. Likewise Soviet lumber and coal imports have an adverse influence on Southern business.

Such unreasonable competition affects the market for American goods both at home and abroad and cannot help but hinder our business recovery. It is estimated that the vicious methods employed in carrying out the Soviet purpose has deprived world industry of 300,000,000 buyers in China, India and other markets. It is unbelievable that such a condition can continue indefinitely, but as long as it does exist we must protect our own industries as far as we are able. It is impossible to prevent unfair competition against our foreign trade, but we can prevent the invasion of our domestic markets by an embargo on Russian products.



# CUT CRATING COSTS WITH BOLTS

Containers for bulky, heavy articles can be simplified with the use of R B & W bolts and nuts

To reduce the cost of your shipping containers, consider the use of R B & W Bolts and Nuts. Numerous shippers of heavy machinery and other bulky objects have saved money in several ways by adopting bolting material. Here are a few savings that can be accomplished:

1. Less wood required in crate.
2. Less time and labor required.
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4. Less freight paid because of lighter weight.

Corollary advantages are increased strength and added protection, and quicker unpacking at destination. A bolted crate is often used again, by certain shippers who erect the equipment they sell. Overhaul your shipping room methods, and see for yourself how you can increase efficiency by modern packing methods aided by the use of R B & W Bolts and Nuts.

You will find R B & W Bolts and Nuts the best to use for this as for all other purposes, because of their consistent high quality, uniform strength and ease of assembly.



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*for* Nello L. Teer  
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With the close-quarter independent crowd the operator digs with 25% more digging force at the dipper lip and reaches the wagons without the hoist cable pulling against the crowd. Ask about this feature—it is a money making advantage on every job.

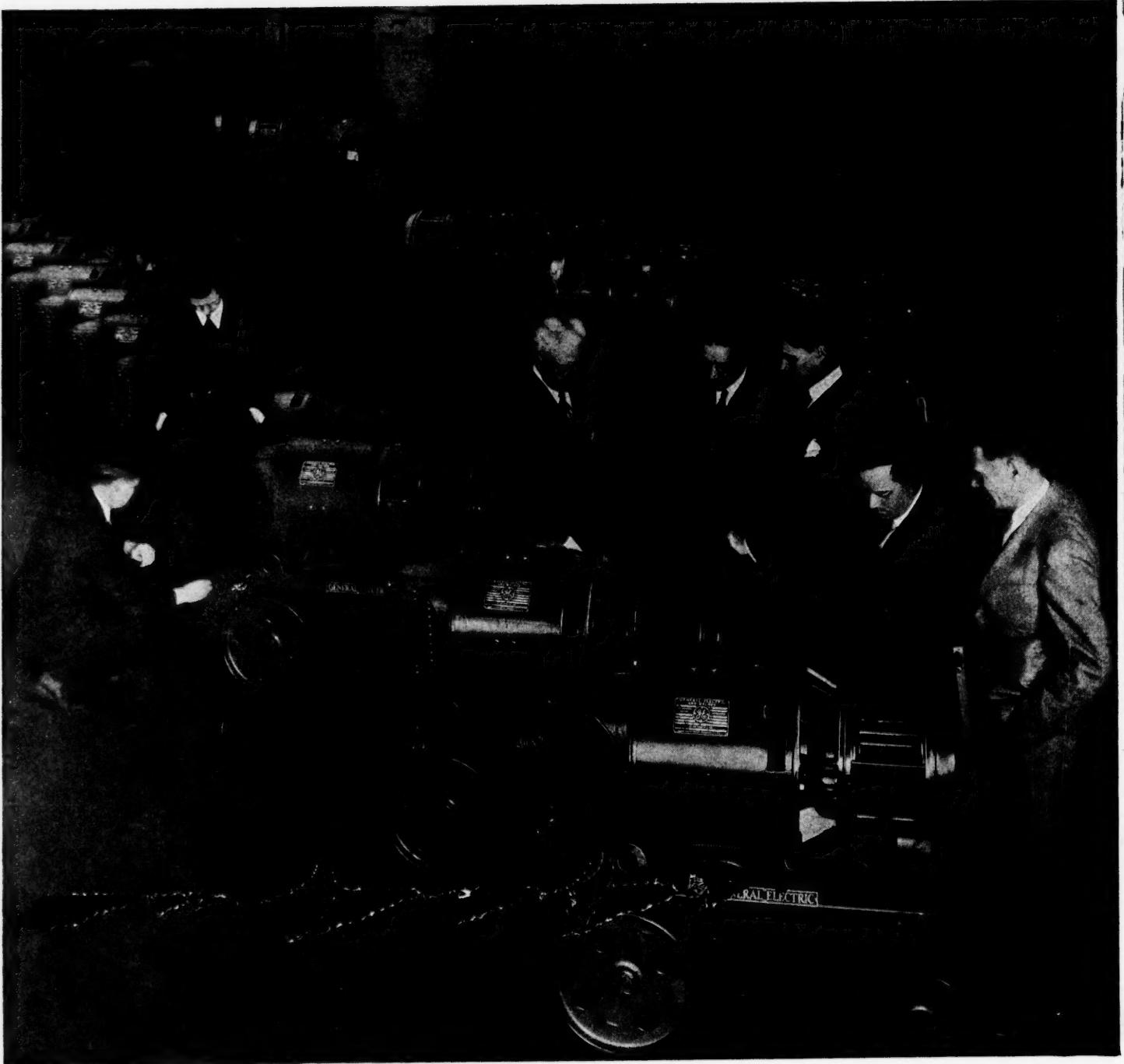
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of all the good welders now on the market  
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But here it is! They did the seemingly impossible! For three years, this revolutionary design of set was in the making.

For three years these specialists in arc-welding design worked closely with motor specialists, control specialists, generator specialists—in brief, with specialists in every single vital part of an arc-welding machine—in order that each part might contribute to an arc welder that would combine the best features of all the good sets on the market plus new features never before available.

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Stable, flexible arc	Simple operation	Light, compact, strong construction
Quick recovery ("pep")	Duplex voltage control	Low center of gravity
Self-excitation	Dead-front control panel	A definite purpose for every ounce of material
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*General Electric, in placing its monogram on this remarkable set and in offering it to industry, is firmly convinced by test after test of the most exacting nature that this welder represents the biggest single step forward in the perfecting of welding equipment, that has been announced in the last decade.*

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EVENING ON A NATION-WIDE N.B.C. NETWORK

# E L E C T R I C

S A L E S   A N D   E N G I N E E R I N G   S E R V I C E   I N   P R I N C I P A L   C I T I E S

530-103

# Still on the Job after 100 Years



*Unretouched photograph of section of 100-year-old cast iron water main still rendering efficient service in Philadelphia's water supply system. (Inset) Mayor Mackey (right center) and Director of Public Works Murdoch inspecting section removed to cut in hydrant—Chief Hayes at microphone.*

"**LADIES AND GENTLEMEN**, at this corner (Fifth and Federal Streets) we have taken up water pipe that has been in the service of the people of Philadelphia for over a century. Notwithstanding the great changes that have taken place in our city, this cast iron pipe stands perfect in all its integrity as disclosed to us tonight after having made the excavation and taken out a section." . . . (Excerpt from a speech by Mayor Mackey of Philadelphia in a radio program during the inspection of a 100-year-old cast iron water main.)

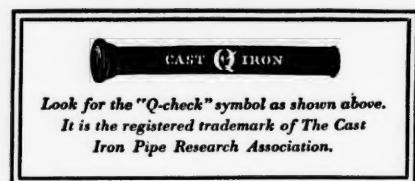
In the words of the radio announcer: "This event had its inception when the Bureau of Water Supply discovered, upon cutting in a hydrant, that below the surface of this street there is a cast iron pipe which was laid more than a hundred years ago. It is still supplying this section with water as efficiently as ever. Just a few squares away there lie buried at Front and Chestnut Streets 1680 feet of cast iron pipe laid 109 years ago, the oldest cast iron water main in the country."

Still serving many of our older cities are cast iron gas and water mains that were laid 90 to 100 and more years ago. These long-lived cast iron mains are probably the only example of century-old engineering material which is still giving satisfaction under the radically changed conditions of today. Cast iron pipe's long life has saved millions of dollars to taxpayers.

The reason for the long life of cast iron pipe is its effective resistance to rust. Cast iron is the only ferrous metal which will not disintegrate from rust. This characteristic makes cast iron pipe the most practicable for underground mains for rust will not destroy it.

Every taxpayer should take an active interest in the kind of pipe being laid, or to be laid, in his community. For further information write to The Cast Iron Pipe Research Association, Thomas F. Wolfe, Research Engineer, 122 South Michigan Ave., Chicago, Ill.

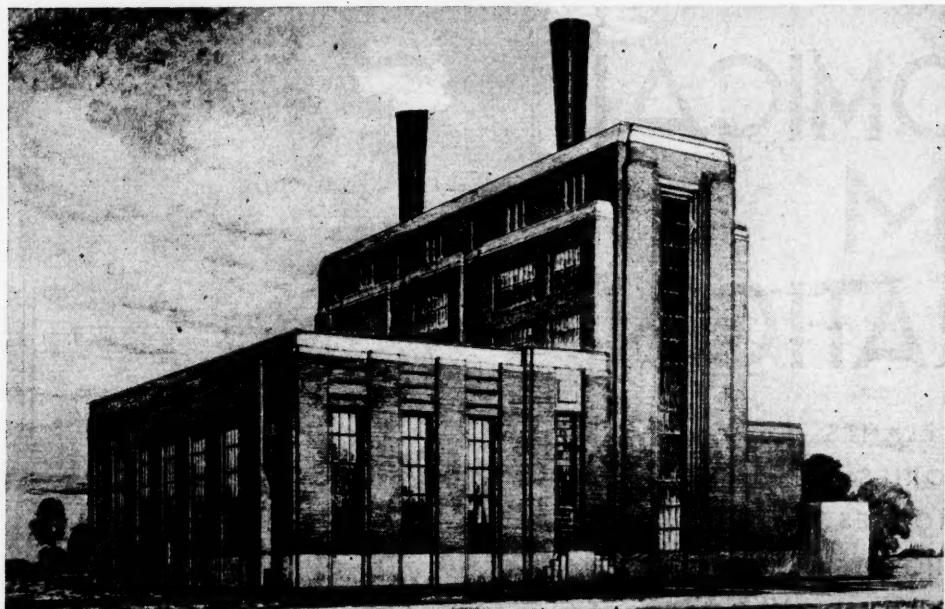
Cast iron pipe bearing the "Q-check" trademark is obtainable from the following leading pipe founders: Alabama Pipe Company, Anniston, Ala.; American Cast Iron Pipe Company, Birmingham, Ala.; James B. Clow & Sons, 219 N. Talman Ave., Chicago, Ill.; Donaldson Iron Company, Emmaus, Pa.; Glamorgan Pipe and Foundry Company, Lynchburg, Va.; Lynchburg Foundry Company, Lynchburg, Va.; National Cast Iron Pipe Company, Birmingham, Ala.; United States Pipe and Foundry Company, Burlington, N. J.; Warren Foundry and Pipe Corporation, 11 Broadway, New York.



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## CAST IRON PIPE

[ The above page advertisement of The Cast Iron Pipe Research Association will appear in Time, July 27th—Collier's, August 1st—Saturday Evening Post, September 19th. Total circulation over five million. ]



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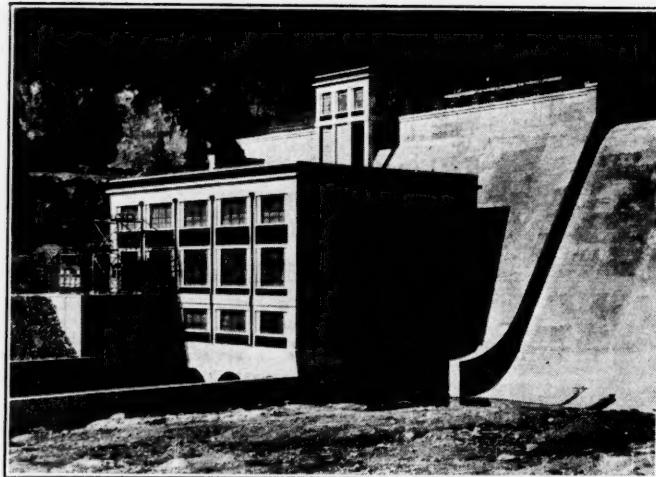


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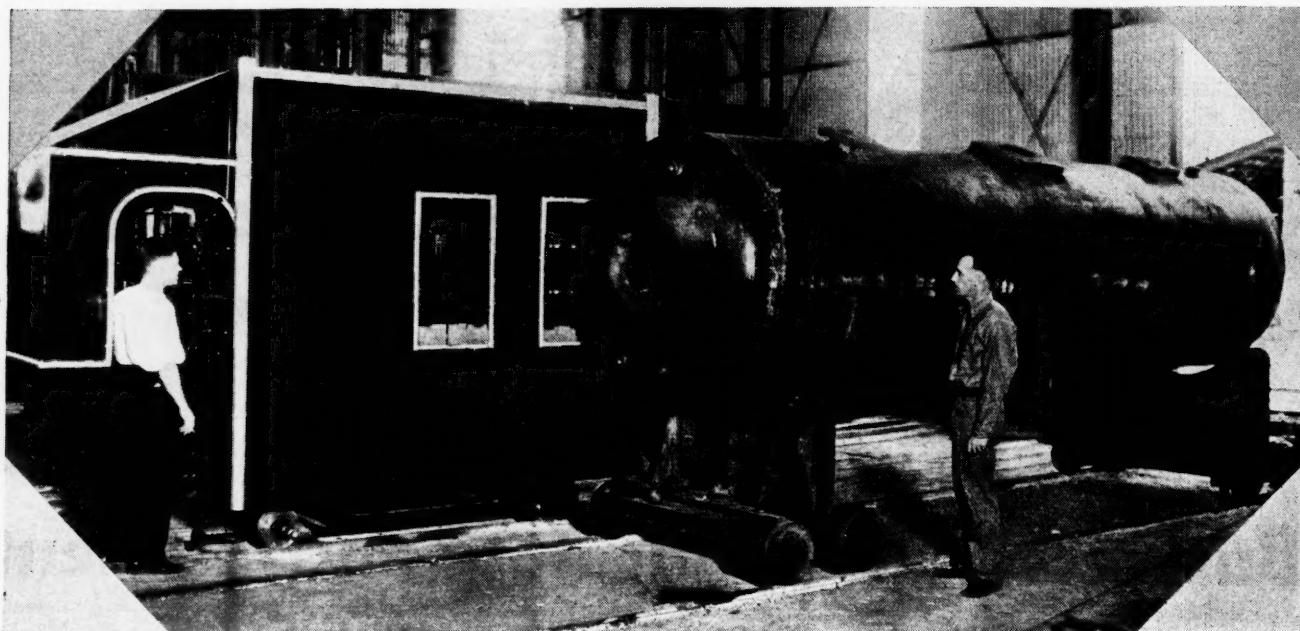
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Baltimore, Md., July 30, 1931

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## MANUFACTURERS RECORD

**MAIN OFFICE**  
Manufacturers Record Building,  
Commerce and Water Streets,  
Baltimore, Md.

Published Every Thursday  
*by the*  
**MANUFACTURERS RECORD  
PUBLISHING CO.**  
FRANK GOULD, President

**BRANCH OFFICES**  
Chicago—11 S. LaSalle St.  
New York—901 Singer Bldg.

Subscription Rates: \$6.50 a year (in advance); six months, \$3.50; three months, \$2.00 to United States, Mexico, Cuba, Porto Rico, Hawaii and the Philippines. For Canada add postage \$1.00 a year. For other foreign countries add postage \$3.50 a year. Single copies, 20c.; back numbers, one to six months, 50c. each; over six months, \$1.00.

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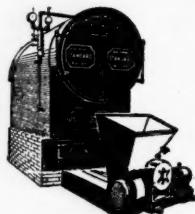
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Vol. C No. 5 }  
Weekly }

BALTIMORE, JULY 30, 1931

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## Farm Relief and the Taxpayer

WITH the final \$100,000,000 installment for the Farm Board made available on July 1, to complete the \$500,000,000 fund, the operation of the Agricultural Relief law must be well considered before further authorizations or appropriations are undertaken. Although the policy of Government relief for agriculture is based fundamentally on practical politics, relief for the national taxpayer now demands that the law be administered on sound business lines. The American taxpayer, who has put up \$500,000,000 for two years of "farm relief" and \$3,000,000 for the maintenance of the Farm Board, is entitled to a showdown and a run for his money.

"Broadly speaking, the activities of the Farm Board divide themselves into two parts: Those which have to do with the long-time program for the permanent betterment of agriculture, and the temporary measures, such as wheat and cotton stabilization operations, undertaken to deal with an emergency created largely by the business depression," Chairman James C. Stone explains.

The program for permanent betterment may be described as a constructive movement to establish farming on a business basis and make the farmer a practical business man. The stabilization operations are transactions on the floors of the exchanges, to maintain quotations in the face of the law of Supply and Demand. In helping the farmers "to build a cooperative marketing system which they themselves will own and operate in their own interest," the Farm Board is carrying out the intent of the people as embodied in the law. For its adventure into the speculative markets, there is not the shadow of excuse. The \$175,000,000 venture into speculation simply has proved yet again that artificial panaceas cannot be made to overcome practical fundamentals.

In responding willingly and liberally to the appeal for "farm relief," the American people unquestionably had in mind the so-called "little" farmer, whose plight generally had become extreme. The public sympathy

embraced 6,300,000 farms in the land, with more than 50 per cent in the South. A policy of governmental aid for the agricultural industry was adopted, and the manufacturing industry and other businesses were asked to contribute the necessary funds in taxes. The theory of cooperative marketing was translated into practice, and a new Government agency was set up to administer this Farm Relief law.

Of a computable total of \$464,000,000, so far, operated by the Farm Board for "farm relief," \$175,000,000, or 37.7 per cent, has been poured into the speculative markets in an effort to uphold quotations, and \$289,000,000, or 62.3 per cent, has gone into loans from the revolving fund, as of the latest report.

In its effort to maintain cotton quotations, the Farm Board acquired approximately 1,300,000 bales of the 1929 crop, "in the neighborhood of \$85 a bale," the board informs us. The price as this is written is about 9.3 cents a pound, or \$46.50 a bale, and these 1,300,000 bales are still withheld from the market by the Cotton Stabilization Corporation.

At the end of the 1929 wheat crop, the board adds, it had on hand between 60,000,000 and 65,000,000 bushels, purchased "at prices ranging from around \$1 to \$1.25 a bushel." In last November, with the price at 69 cents in Chicago, the board re-entered the market; "purchases were made for the remainder of the crop year, and the price paid at the end of the crop year was 81 cents a bushel." The quoted price of wheat at this writing is about 51 cents a bushel, with actual sales at 25 cents a bushel in Kansas. How much wheat the board holds and the price of these holdings are not made public lest "such information should play into the hands of the enemies of the Agricultural Marketing Act and to the detriment of farmers, the people the Farm Board is trying to help," it is explained. However, the press has repeatedly referred to the 200,000,000 bushels held by the Grain Stabilization Corporation.

The "relief" for the "little" cotton planter and the

"little" wheat grower from these operations has not been conspicuous. Even the volume-producers in both staples have not been discernibly aided. The manufacturer and the business taxpayer shoulder a loss of \$32,000,000 on wheat and \$49,400,000 on cotton market operations.

Much brighter is the picture of helpful achievements under the farm relief movement. Sound aid in production has long been furnished to the farmer through the Department of Agriculture. The principles, the rudiments and the operations of distribution, or marketing, are being instilled by the Farm Board through guidance and proper cooperative aid.

"The Farm Board has centered its efforts largely on helping existing cooperatives to unify their sales activities on national or regional lines, depending on the character of the commodity handled; local associations to strengthen their set-up, and producers to organize in the areas not now served by cooperatives," Chairman Stone discloses.

In cotton, farmers marketed about 2,100,000 bales of the 1930 crop through the American Cotton Cooperative Association, with headquarters at New Orleans, to which the Staple Cotton Cooperative Association, Greenwood, Miss., added 250,000 bales of long staple. The National Pecan Marketing Association has become a \$500,000 central sales agency, with headquarters at Jackson, Miss., and the 3000 interested growers last year handled more than 3,300,000 pounds, with a potential volume of 10,000,000 pounds in sight. The tobacco growers in Virginia, North Carolina, South Carolina, Georgia, Tennessee and Kentucky have been helped, and the dairy and poultry producers in Georgia, North Carolina, West Virginia, Missouri, Oklahoma and Texas are being assisted in the development of marketing and distribution.

Whether because of over-production or under-consumption, the trouble for agriculture has been Surplus. Instead of diminishing in volume, the surpluses in many farm products seem fated to increase, conspicuously in the case of wheat. The problem becomes cumulative in importance to every citizen in the land. In France, it is proposed to help the small producer by penalizing new plantations for grain or grape—that is, to limit, if not curtail, production. In the United States, Uncle Sam has put on agriculture's boots and is endeavoring to lift himself by the bootstraps.

It may be that national discrimination in favor of any individual industry—whether agriculture or manufacturing, mining or power production—by Government funds and agencies is a proper procedure. It may be that cooperative marketing for farm products is the best business practice. At all events, both those principles or policies have been made operative under a law framed specifically on those lines, for agriculture. Not only agriculture, the beneficiary, but also federal taxpayers in every circle must make the best of it.

The problem of farm surplus is confused and complicated by the exercise of practical politics. "Farm relief" is a sentimental slogan for demagogues in and

outside the chambers of Congress, and the radical remedies which well might cure the trouble are ignored in favor of artificial panaceas which appeal to the people's imagination, rather than to their sober thought.

Every thoughtful person, it may be said, wishes to restore prosperity to the farm, even for selfish economic interests, if not in sympathy. But the overburdened American taxpayer also must be considered when further farm relief is proposed, with further millions in actual money to be provided.

---

## Communism Among Southern Negroes

**R**ECURRENT outbreaks by misguided negroes at some points in the South must not be ignored as mere incidents or news items. Behind the race disturbances at Birmingham, Camp Hill and other places is the menace of actual communism, operating through an effective and unwitting tool. In its knowledge of the friendliness, loyalty and tractability of the Southern negro, the South should not fail to realize that disturbing outsiders are actively at work and are playing on the weak side of the negro nature.

Warning of the communist activities among the negroes in the South now takes two new phases, both of negro origin. On one line, a negro paper appeals to members of its race to resist the false doctrines and false promises of communist inciters in the South. On another, Rev. P. Colfax Rameau of the Welfare Social Uplift Service in Alabama says in a letter to Major T. Barton Baird of the Southern Bell Telephone & Telegraph Company:

"If you and other Southern leaders have any doubts as to this active communist campaign that is being carried on in Alabama among my people, 'you just keep on sleeping,' as an old darky once said. I tell you that on awaking in some morning in the near future you will be confronted with the ignition of an inter-racial volcano that will cause many innocent men, women and children to suffer."

Under his own caption, "Communist party and its Southern program that is being preached to my people, its slogan 250,000 negro members in Alabama in five years," Rev. Rameau quotes the communist appeal to the Southern negro to take an aggressive part in the proposed world revolution. The lure of race equality is emphasized and white and black intermarriage is dangled as bait before the Southern negro's imagination. A mirror is held up to the Southern negro in which he sees his reflection as a "rapidly sinking black comrade" and "a victim of black oppression" and a pariah who can be saved only by "uniting with the principles of the communist party." These principles include the overthrow of civilization by bloodshed; also, enforced racial equality.

One recent result of such appeal and personal recruiting by communist agitators appeared in a negro

uprising in Tallapoosa county, Alabama, of which the Bristol Herald Courier says:

"The whole trouble at Camp Hill, in which more than one negro has been killed and more than 30 are under arrest, and racial ill-feeling has been aroused, was caused by interlopers and meddlers from another section of the country. White men from New York went down and organized negroes into a union through which they were encouraged to demand such impossible things as social equality and intermarriage with the whites. It was inevitable that such an organization would soon or late bring its members into conflict with the authorities."

The gravity of the situation in the South was pictured in the report by a joint committee of the New York Legislature, in part, as follows:

"Propaganda among negroes falls into two general groups, supported in the main by liberals, socialists and other radicals among the whites. Agitation is being carried on among the negroes looking to the consolidation of the negro race throughout the world."

For several years, the incitement of the Southern negro by communists and other agitators has been a matter of common knowledge. Frequent outbreaks of violence have given proof of its destructive effectiveness. The failure of the South to grasp the gravity of the danger is thus explained by the Gadsden Times:

"The superior manner in which some Southern newspapers have been 'laughing off' the menace of communism has contributed nothing toward checking the evil, and the time has come when they should awaken to the actual peril of the situation and treat seriously an evil that long since passed the joking stage.

"Red" outrages have become all too common in the South, breaking out first in Tennessee and the Carolinas and then spreading rapidly into other states. More recently, Birmingham has had a bitter dose of communistic medicine, dynamite having been freely used in the promotion of "Red" rackets in that city. One effect has been to awaken the press to an evil it has been inclined to discount.

Profiting by the indifference of press and public, the communistic forces \* \* \* send trained crews into communities where 'jobs' are to be done and the deadly work is performed overnight."

Undisturbed by outside agitators, the Southern negro is by no means a "menace." His creed is expressed in the Rameau letter: "State laws prohibiting 'intermarriage' are laws based on the Law of Race Distinction, as ordained by God Himself for the building of a better social order within the ranks of each race." So it is that appeal is made to "you Southern white people to help save the negro for the South" and to help him help himself. The Southern people are in large measure guardians of the negroes and their welfare, and as such owe it to their wards to protect them against evil influences from other areas.

The negro situation in the South will assume shape as a serious danger to both the white people and the black if agitation by communists and other evil influences is permitted to continue. The radical incitement must be stopped forthwith.

---

"Advertising should get back on a full time working basis and help to restore the nation's buying power."—*Gilbert T. Hedges.*

## Increased Steam Efficiency

**G**REAT efficiency of steam generation, while beneficial to the power industry, has reduced coal consumption and thus has added to the problems of the coal producer. The July issue of the Industrial Bulletin of Arthur D. Little, Inc., says:

"In 1919 the average coal consumption by central electric stations amounted to about 3.2 pounds per kilowatt hour of electricity produced. By 1929 this ratio had been reduced to 1.65 pounds of coal per kilowatt hour. Had the 1919 rate of coal consumption per kilowatt hour obtained in 1929, the coal bill of the electrical industry would have been \$100,000,000 greater during the latter year than it was in fact."

This is a splendid record of achievement in the field of research, and credit should properly go to engineers and manufacturers who have improved steam power plant design and equipment, enabling the electric power industry to make such an appreciable saving in fuel cost.

While improvements in the design of coal combustion equipment mean lessened consumption of fuel in the individual plant, it is recognized that by this same means of securing increased efficiency of coal burning and coal handling devices and a lower producing cost for power, the coal industry will extricate itself from its difficulties of the moment, and in time to come the demand for the fuel will increase.

---

## Tariff Law Evasion

**A**NOTHER attack on the Tariff law is disclosed through hearings by the Customs Bureau on complaints that foreign articles are admitted to the United States without compliance with the marking requirements imposed by Section 304. In effect, this provides that "every article and its immediate container" shall be marked, stamped, branded or labeled "to indicate the country of origin."

"The marking law," as John G. Lerch, counsel for domestic interests, reminded the Customs Bureau, "was designed further to protect American industry, the general public, and domestic labor."

On the other hand, said J. D. Nevius, general counsel to the Customs Bureau, the marking law was not enacted to give domestic articles added protection.

"We do not want it said that the bureau is using the marking provisions to place an embargo on foreign merchandise," Commissioner F. A. X. Ebele added.

Any obscurities in the marking provisions of the Tariff law are subject to interpretation by the Federal courts. The duties of the Customs Bureau and other governmental agencies are merely administrative, even when officials may feel that "some decisions by the courts" are not correct.

The liberality extended in the reception of goods reputedly of convict or other enforced production is already a subject of wide comment. The admission of unmarked or improperly marked foreign goods, it is openly charged, now has become a practice, also.

# Bremo Bluff Power Station

*in*

## Virginia

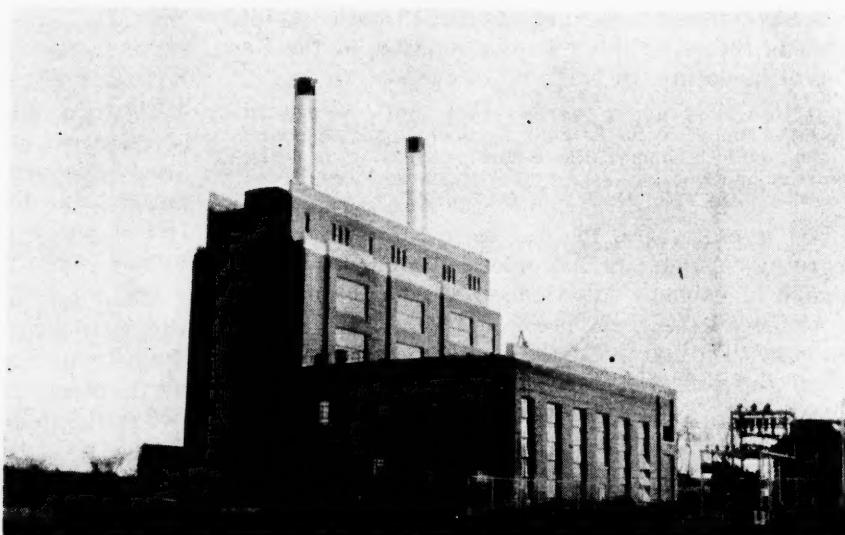
SOME 60 miles west of Richmond, at a little village on the James River known as Bremo Bluff, the Electric Management and Engineering Corporation of New York, has completed construction of a new steam electric generating station for the Virginia Public Service Company, an operating unit in the Middle West Utilities System. It is known as the Bremo plant.

As central stations go, this plant is one of moderate capacity, the initial installation being rated at 30,000 kilowatts, with an ultimate capacity of 150,000 kilowatts. From a standpoint of magnitude, the Bremo plant may excite no particular interest in the engineering world, but from every other angle, say the owners, this station may be considered one of the most interesting of any constructed within recent years. Not only is the general design of the station characterized by new ideas, but much of the equipment—the boilers, turbines and auxiliaries—is of new and improved design. Emphatically, however, Bremo is not a freak station or an experiment for the purpose of trying out a number of new ideas.

The final design of Bremo is declared to be the logical consequence of the utmost freedom and co-operation between the designing engineers and the manufacturers. The outstanding features are detailed by the management as follows:

1. Centralized control. This is the first station that has come to general attention in which the control of the entire plant, boiler and turbine room and electrical switching is centralized in a single control room under supervision of a single operator.

2. Diphenyl oxide air preheaters. A



General View of the Bremo Plant

new idea in preheating air for combustion, incorporating the use of an intermediate heat-exchanging medium and separate heat-absorbing and heat-releasing elements.

3. Inclined tube, single pass boilers with tapered gas pass. These are the first units of this kind to be installed, and incorporate the most modern theories of boiler design and practice.

4. Fifteen-thousand kilowatt, tandem-compound, 3600 r.p.m. turbines, the largest 3600 r.p.m. condensing units built thus far.

5. Rain-type, direct contact extraction heaters, discharging to suitable pressure stages of a multi-stage condensate pump.

6. Automatic temperature control of steam to turbine by means of desuperheaters under thermostatic control.

7. Premeasurement of fuel and air in combustion, involving several burners per boiler, each with its individual mill and fan equipment all under remote control.

### *Designed on "Unit" Principle*

Bremo station is designed on the unit principle; that is, the equipment is so divided and so arranged that each boiler and turbo-generator together with its associated auxiliaries may operate as a unit without respect to other parts of the station.

At present the principal equipment consists of two 15,000 kilowatt turbo-generating units and two 19,836 square feet

boilers, built for 525-pound pressure and designed to deliver 200,000 pounds of steam at maximum load. Each boiler serves its own turbine, although the piping is arranged so that the units may be interconnected. Space also has been allowed for installation of a third boiler.

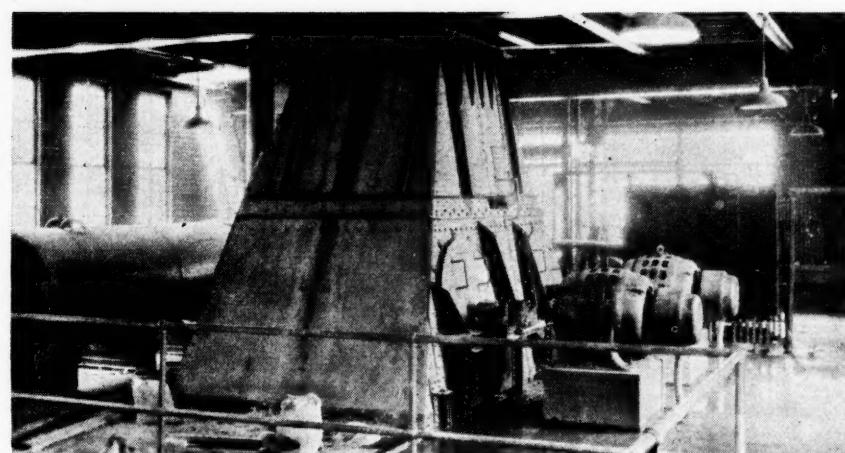
This unit idea has been carried out throughout the entire cycle of power generation, from the pulverizing mills in the boiler room to the leads to the outdoor switching station. Not only is each boiler furnace provided with its individual system of coal preparation, but each of the three burners serving each furnace has its individual mill, fans and heaters. This applies also to the boiler feed water system; each unit has its own feed pumps in duplicate, condensate pumps in duplicate, evaporators and extraction heaters, and operates as a unit. This results in a logical and convenient arrangement of equipment and one that entails a minimum amount of piping. Another feature is the fact that although at present the plant will operate with steam having a total temperature of 750 degrees, it is designed and all equipment is built for ultimate operation at 825 degrees, if desirable.

As Bremo station is located on the bank of the river and also is served by

the Chesapeake & Ohio Railroad, it is favorably situated as regards condensing water and coal supply. Architecturally, the station is pleasingly attractive, the arrangement being such that future growth will be in a direction away from the river.

The two 15,000-kilowatt generating units are placed symmetrically with respect to each other and to the boilers. The boiler and turbine room are separated by a central bay, which contains the electrical and steam control equipment, feed water heaters and associated equipment. This feature differentiates Bremo from the usual design of central station where the electrical bay is located on the side of the turbine room away from the boiler room. The main control room is on the same level as the turbine floor and the room directly above it is given up to auxiliary electrical control equipment and the station storage battery, while the floor below contains all the feed water heaters and associated storage tanks and equipment. Two 10,000-gallon house service water storage tanks are installed on the induced draft fan floor in the boiler house, for cooling water and general house service.

Each main turbine is served by a single pass surface condenser, in turn served by two bottom-suction, top-discharge circulating pumps and one triple element three-stage steam jet air ejector, each element having air capacity for normal operation. The heat balance is maintained by means of the extraction heating system, all auxiliaries being driven by 550-volt motors. A 1000-kilowatt spinning house turbo-generator is provided, but the auxiliaries normally derive their supply from station transformers tapped into the system between the generators and transformers. In the boiler room, steam is generated at a pressure of about 500 pounds, in two



**Boiler No. 1, With Induced Draft Fans in Base of Thermix Stack**

vertical, single pass, inclined tube boilers, provided with completely water-cooled walls, slag tap type furnaces and fired by pulverized coal. Air for combustion is heated by a new form of air preheating equipment, incorporating the use of diphenyl oxide as a heat transfer agent between the heat absorbing element in the gas passage to the stack and the heat releasing elements in the primary and secondary air supply ducts to the furnaces.

The weight of primary air and of secondary air and the weight of coal are indicated on a three-part instrument, placing the exact amount of coal and air supplied to the furnace under observation of the operator in the control room. Altogether, there are six complete pulverizing units.

#### *Influence of Boilers on Design*

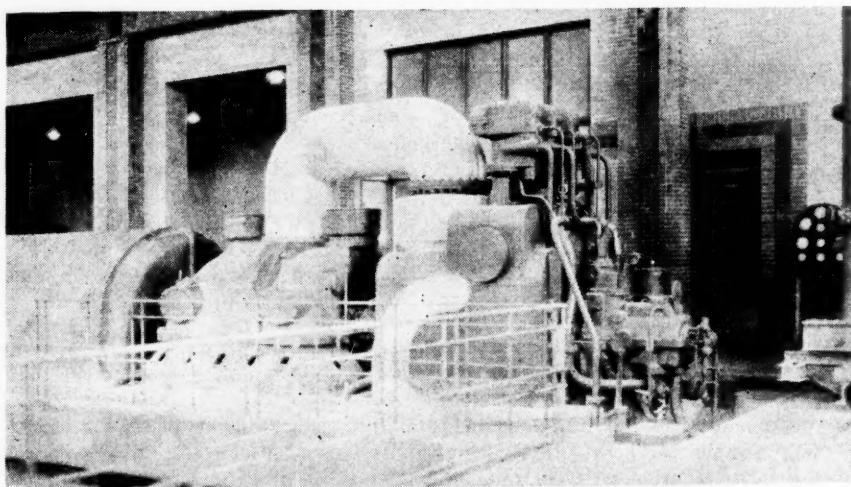
Considering briefly the boiler room as a whole, it may be said that the shape of the boilers and the arrangement of equipment are quite different from con-

ventional designs, effort having been made to simplify the layout as much as possible. As a nucleus for this object, the vertical, single-pass boilers were selected, having no baffles and providing an absolutely straight tapered gas path from the furnace to the stack. A unit of this type is high and narrow; hence, the duct work associated with the usual type of air preheating equipment would be long and expensive and also would entail considerable draft loss. This difficulty, however, in this case is eliminated by the use of the diphenyl oxide air heating system.

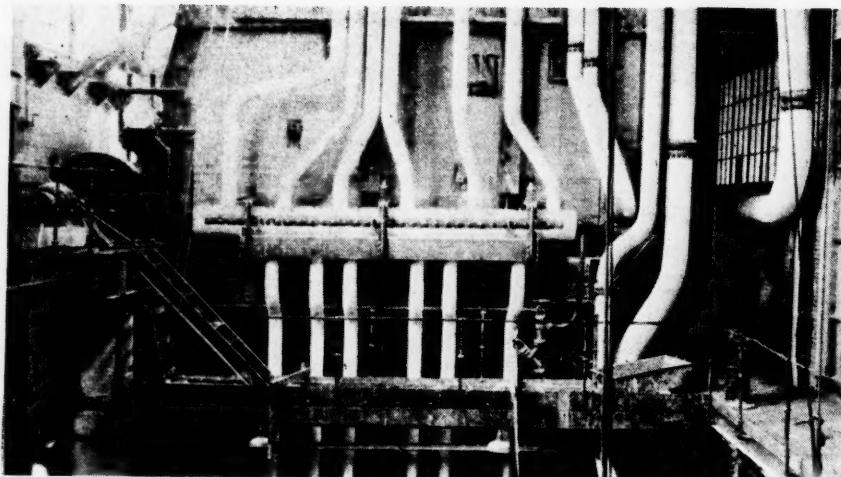
#### *Diphenyl Oxide Air Preheating an Outstanding Feature*

This system consists of a heat-absorbing element in the gas path of the boiler and several heat-releasing sections placed in the air supply ducts of the same boiler. The heat absorbing element is quite similar to an extended surface economizer. Each heater at this station contains 16,128 square feet of external heating surface. The heat releasing or heat liberating units are also of the extended surface type, using fin tubes, those used for heating primary air having 2170 square feet of surface and those for secondary air 6108 square feet. The heat-absorbing element is placed directly over the top of the boiler, the exit gases passing vertically upward, through the heater to the induced draft fans in the base of the stack. The heat-liberating elements are placed close to the mills and furnaces with which they are associated.

Heat from the absorbing element is transferred to the heat-releasing elements by circulation of a mixture consisting of 85 per cent diphenyl oxide and 15 per cent naphthylene. This is circulated by pump through a 3-inch line. The diphenyl oxide system is entirely



**15,000 Kilowatt Turbine Generator No. 1**



**Top of Water Walls, Boiler No. 1, With Header, Re-Circulating Tubes, Main Steam and Boiler Feed Water Lines, and Secondary Air Fans and Heaters**

closed, an expansion tank on the heater floor providing for variations in volume.

Diphenyl oxide is peculiarly suited to serve as a heat transfer medium, as it has a specific heat of 3.78 times that of water. Furthermore, it can be heated to a relatively high temperature at a comparatively low pressure. In the pure state it solidifies at a temperature of 80.6 degrees F., and, since there might be danger of it "freezing" in the system, it is mixed with naphthylene to lower this freezing point.

Splitting up of the heat liberating elements allows the primary and secondary air temperatures to be varied separately. In planning the system it was recognized that there are limits beyond which the temperature of primary air supplied to the furnace cannot be increased, due to its effect upon the operation of the mill and fan equipment, but that these limitations do not apply necessarily to the secondary air supply. Secondary air after being heated is usually delivered directly into the furnace and the temperature of the air is said not to affect the operation of important equipment as in the case of the primary air. Assuming the use of proper materials in the ducts, wind boxes, burners and heaters, there seems to be no top limit to the temperature of the secondary air, the plant management says, yet where both the primary and secondary air supply is served by a single heater, as is customary, the temperature of the secondary air is limited to that of the primary air.

With the diphenyl oxide system using separate heaters, this obstacle is removed entirely. The heat to both primary and secondary air can be accurately proportioned in accord with fuel requirements, and heaters are so designed that very high secondary air temperatures can be attained. The primary

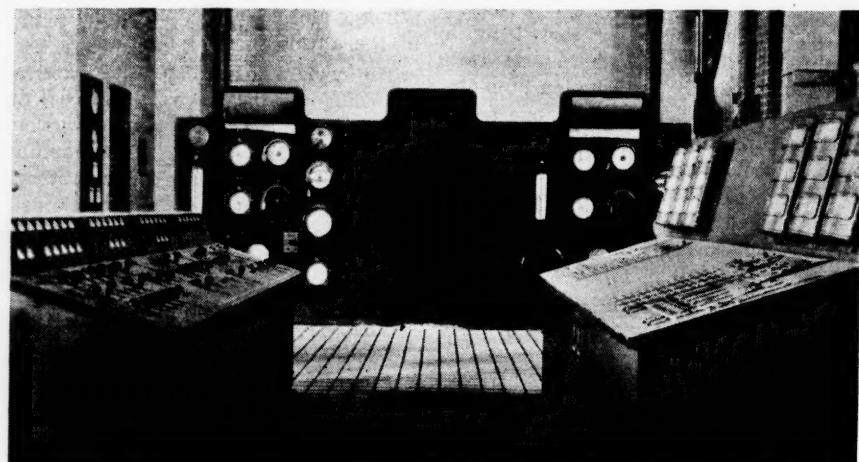
air temperatures are controlled by restricting the flow of diphenyl oxide to the primary air heaters.

The operation is exceedingly flexible. Primary air is drawn into the top of the primary air heaters and, after being

remote point. The furnaces are completely water cooled and are provided with slag tap bottoms. Each furnace has a volume of 9400 cubic feet and a water wall surface of 1838 square feet.

#### *Variety in Boilers*

With exception of the system of pre-heating the air, perhaps the most interesting feature of the station lies in design of the boilers. These are stated to be of an entirely new design in this country, and are known as vertical, single, tapered pass inclined straight tube, cross drum boilers. They are designed for 525 pounds pressure and 825 degrees total steam temperature and have a normal output of 160,000 pounds per hour and a maximum capacity of 200,000 pounds per hour. Each unit has a heating surface of 19,836 square feet. They are equipped with interdeck convection superheaters of the return bend type, designed to heat the boiler output to a temperature of 825 degrees. The tapered gas pass allows for natural contraction of the gases as the temperature decreases.



**Left—Main Bench Switchboard. Center—Boiler Gauge Board. Right—Boiler Control Board**

heated, part of it passes directly into the pulverizing mills and the rest is bypassed into the primary air fan. The secondary air fans take air directly from the interior of the boiler room and force it through the secondary air heaters into the burners. All air, primary and secondary, enters the furnace at the burners.

Three horizontal, double-deck, intertube type burners are placed in the front wall of each furnace, and the total coal fed to one boiler at full load may be 20,100 pounds per hour. In addition, each furnace is provided with four oil burners for starting purposes, electrically ignited and controllable from a

The total draft loss from furnace to stack, including the air heat absorbing element, is expected to be only 2 inches. Induced draft is provided by two fans in the base of each stack, of the venturi type, designed to handle a maximum of 84,600 cubic feet of air per minute at a temperature of 325 degrees F., against 3.5 inches static pressure.

#### *Centralized Control in Generation*

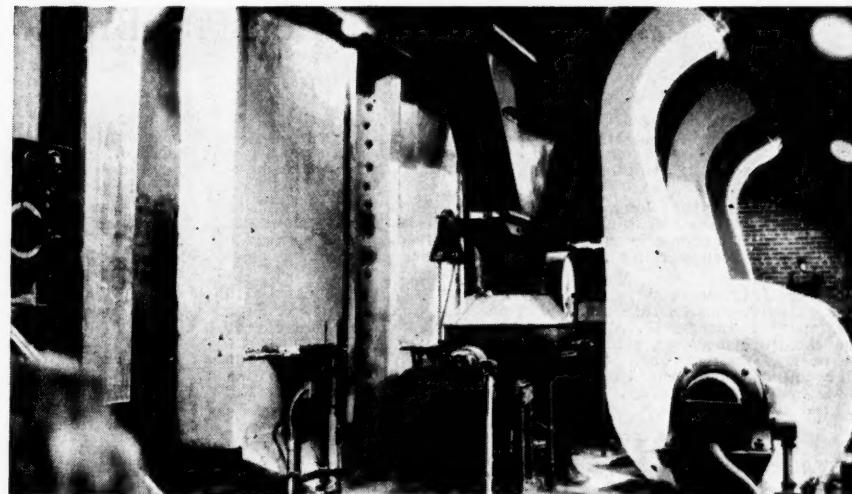
All control is centralized at one point. By manual adjustment of fan speeds, mill feeder speeds and diphenyl oxide pumps, the operator can keep the pointers of all the meters at certain values that are known to be correct for a given

boiler output. These values have all been predetermined. A special control board is one of the outstanding features of the station. By it, the operator obtains a picture of the whole system and knows positively which valves are open or closed and which motors are operating.

All power generated in the station, with exception of that used for station power, is stepped up to 66,000 volts and sent out over transmission lines at that voltage. There is no low tension switching, and all high tension switching is done at the outdoor switching station adjacent to the plant.

### Tandem Compound Turbine Units

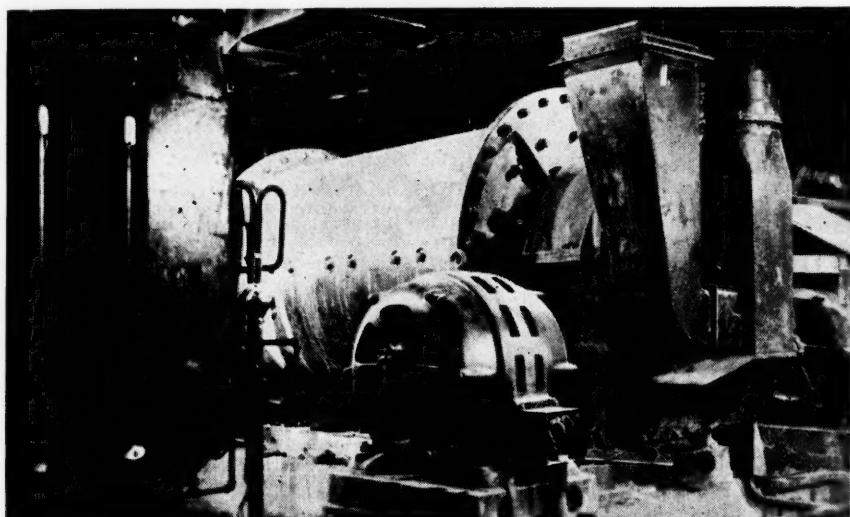
The two 15,000 kilowatt turbo-generators which constitute the present generating equipment are the first units of this kind to be constructed. Each machine is rated at 15,000 kilowatts, 80 per cent power factor, and is designed for operation at 13,800 volts, 3-phase, 60 cycles with operation at 3600 r. p. m.



**Primary Air Heaters, Power Member Damper Control, Coal Bunkers and Hopper, Coal Feeders and Scale Conveyors, Primary Air Fans, and Coal Piping**

750 degrees F., total temperature at the throttle, and with a 29 inch vacuum at the exhaust, but provisions have been made for future operation with a tem-

Feed water is heated by means of four direct contact rain type extraction heaters, taking steam from four stages of each tandem compound turbine.



**Motor Driven Coal Pulverizers With Ducts**

Direct connected exciters of 90 kilowatt capacity furnish field current at 250 volts. Voltage of the main units is maintained constant by automatic voltage regulators. Generators are of modern structural steel construction, with improved radial ventilation provided by internal fans mounted on each end of the rotors. Turbines are of the tandem compound type, made up of a single flow impulse-reaction high pressure turbine coupled to a double flow reaction low pressure turbine, with a single cylinder bottom exhaust opening, the high and low pressure elements being connected for steam flow by a large overhead receiver pipe. For the present, the units will operate at 450 pound gage pressure,

perature of 825 degrees at the throttle.

Steam is extracted from four bleeder openings in each machine for heating the feed water to approximately 400 degrees F. when operating at full load.

The units mark a distinct advance in the trend towards higher speeds for large central station turbine generator units, the plant owners declare, in that they are the largest 3600 r. p. m. condensing type units built in this country thus far. Heretofore, the speed limit for the same capacity has been 1800 r. p. m. and complete expansion has been secured in single cylinder turbines. The 3600 r. p. m. tandem-compound unit has distinct advantages in operating characteristics, efficiency and weight.

### Control of Steam Temperature

An interesting feature of the station is the method of maintaining a constant steam temperature by means of surface type desuperheaters. This consists of a contractor controlled through a thermostat by the temperature of the steam entering the turbine. The contractor sends out an electrical impulse to a driving mechanism on the valve whenever the steam temperature deviates from the desired normal. The driving mechanism is connected through reduction gearing to a by-pass valve of the butterfly type, causing more or less steam to pass through the desuperheater, depending on whether the temperature is above or below normal. Heat liberated by the steam, in passing through the tubes of the desuperheater, is absorbed by the water surrounding the tubes. The desuperheaters are designed to handle steam at 825 degrees F.

At present, all electricity generated is delivered to the transmission system of the Virginia Public Service Company at 66 kilowatts, but since plans call for future operation of the system at 110 kilowatts, all electrical equipment installed has been selected with this end in view.

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*The foregoing data is based on a report of the Engineering Department of the Seaboard Public Service Co., Alexandria, Va. Brief details of major items of equipment follow.*

## Principal Equipment in Brevo Bluff Plant

### Coal Handling Equipment

All coal handling equipment supplied and installed by Freeman-Riff Company.

Steel track hopper; long apron conveyor; Pennsylvania standard Bradford breaker—100 ton/hr. capacity; single bucket, counter-weighted, full automatic skip hoist; rotary feeder; belt conveyor complete with supporting frame work; and suspension type steel coal bunkers.

Power drag scraper equipment complete (4½ yd. bucket) 110 tons/hr.—Sauerman Brothers; weightometer—John Chatillon & Sons and speed reducers, W. A. Jones Foundry & Machine Co., except for Bradford breaker, which is a Herringbone speed reducer by Gears & Forgings, Inc.; Falk Corporation flexible couplings for high speed drives and Universal type low speed couplings; Cincinnati Rubber Company, belts; and Robbins Conveying Belt Co. idlers.

### Motors for Coal Handling Equipment

Westinghouse, with Cutler-Hammer Co. control-breaker, 40 h.p., 720 r.p.m.; apron conveyor, 5 h.p., 600 r.p.m.; skip hoist, 15 h.p., 1200 r.p.m.; rotary feeder, 3 h.p., 600 r.p.m.; belt conveyor, 5 h.p., 1200 r.p.m.; and drag scraper, 125 h.p., 720 r.p.m.

### Ash Handling Equipment

Allen-Sherman-Hoff Co. Hydrojet sluice with a 980 g.p.m. ash sluice pump, and a 1200 g.p.m., 400 ft. sluice supply pump furnished by Dean Hill.

### Boilers and Auxiliaries

Boilers, two, Babcock & Wilcox Co. single pass, inclined straight tube, cross-drum, water tube boilers, designed for 525 lbs. pressure, 825° total steam temperature. Normal output 180,000 lbs./hr.; maximum output 200,000 lbs./hr. Heating surface, 19,836 sq. ft., 4 in. tubes, 12 to 20 ft. long, 30 sections wide, 39 rows high.

Superheaters, two, Babcock & Wilcox interdeck convection steel superheaters, return bend type; designed to superheat the boiler output to 825°F. total temperature.

Desuperheaters, two, Babcock & Wilcox desuperheaters, submerged bent-tube type, thermostatically controlled to maintain the total steam temperature at 825°F.

Absorbing elements, two, Foster Wheeler Corporation counter current flow heat absorbing elements for remote air pre-heating. Each unit is 24 rows high, 14 rows wide, with elements 16 ft. long over rings, and contains 16,128 sq. ft. external heating surface.

Heat liberating units, six, Griscom-Russell Company (K-Fin), for primary air heating, 2170 sq. ft. each; six Griscom-Russell (K-Fin), for secondary air heating, 6108 sq. ft. each.

### Pulverizers and Furnaces

Pulverizers, six, Kennedy-Van Saun Mfg. & Engr. Corp. air swept, ball type, capacity, each 6700 lb. per hour. Each mill equipped with a rotary feeder, a special belt conveyor for weighing the coal, and an exhaust.

Scales, six, Fairbanks Morse Co. special dormant type arranged to carry the above conveyors and with an attachment for Selsyn motors.

Burners, six, Foster Wheeler horizontal intertube type.

Furnaces, two, Foster Wheeler completely water-cooled type, each with a volume of 9400 cu. ft. and with 1838 sq. ft. water surface.

Instrument panels built by McGibbon Iron Works.

Control panel built by Westinghouse Electric & Manufacturing Company.

Boiler panel equipment includes: Special combustion control—Bailey Meter Co.; draft gages—Hayes, supplied by P. B. Huyette Co.; remote water columns, McNeill liquid level gages supplied by A. B. Carle Co.; steam flow meters—Bailey Meter Co.; boiler feed water meter, Cochrane, supplied by Paul B. Huyette Co.; CO<sub>2</sub> indicator and recorder—Republic Flow Meter Co.; coal feed integrators—Bailey Meter Co.; pressure gages—Consolidated Ashcroft Hancock Co., and recording thermometers—Taylor Instrument Co.

Boiler control panel electrical controls include:

Induced draft fans, ignition oil pumps, secondary air fans, primary air fans, mills, feeders, air heater fluid circulating pump, and valve control and indicating station.

### Exhausters, Fans and Stacks

Steel stacks, two, Prat-Daniel Corporation Thermix, 1 per boiler, each stack containing 2 induced draft fans in its base designed to handle 84,600 c.f.m. max. at 325° F. against 3.5 in. w.g. Stacks are 60 ft. high above the roof and are 8 in. diameter at the top.

Secondary air fans, six, Buffalo Forge Co., each fan designed to deliver 13,450 c.f.m. against 11.2 in. w.g.

Primary air fans, six, Kennedy-Van Saun Mfg. & Eng. Corporation, (exhausters on mills), each 24,000 lb. air per hour at 490° F. against 5½ in. w.g.

Flue connections and air ducts, furnished and installed by Connery & Company.

Damper control by Garrick Engineering Co.

### Turbo-Generators and Auxiliaries

Turbine Generators, two, Westinghouse Electric & Manufacturing Co., tandem compound, each 15,000 kw. at 80 per cent p.f.; 13,800 volts, 3 wire, 60 cycle, 3 phase, 2 poles, 3600 r.p.m., 85 kw.; 250 volt shunt wound direct connected exciter. Surface type generator air coolers, 5570 sq. ft. surface. Generator ventilating fans

on generator shaft. Turbine, 450 lb., 825° F. total temp. steam at the throttle, 15 stages in high pressure cylinder and 8 stages in the low pressure cylinders. Lead plate diaphragm blow-offs in low pressure turbine casing.

Condensers, two, Westinghouse horizontal single pass, radial flow, 13,000 sq. ft. surface each. Surface composed of 2838, 7/8 in. diam., No. 18 BWG Admiralty metal tubes 20 ft. in length. Tubes expanded into both tube sheets. Floating type tube sheet on discharge ends of tubes. Each condenser equipped with 4000 gal. storage hotwell.

Ejectors, two, Westinghouse 3 stage steam jet air ejectors designed to operate on 350 lb. g. steam pressure.

Pumps, circulating, four, Westinghouse bottom suction, top discharge, each with a capacity of 14,250 g.p.m. against a 14.7 ft. total head at 290 r.p.m. 75 h.p. motors.

Vacuum trippers by Consolidated Engine Stop Company.

Water storage tanks, two, Pittsburgh-Des Moines Co., gland seal.

Traveling screens, two, Link Belt Co. Model D vertical, each 28,000 g.p.m. capacity at low water.

House turbine, 1000 kw. Terry Steam Turbine Company, directly connected to an Allis-Chalmers 600 volt, 3 phase, 60 cycle alternator with direct connected 250 volt exciter.

### Boiler Room Accessories

Soot blowers for boilers and economizers by Diamond Power Specialty Co.

Feed water regulators, two, Copes, by Kissick-Fenno Company.

Water columns by Babcock & Wilcox Company.

High pressure steam piping 2½ in. and larger Sarlun joints, high pressure steam and water piping less than 2½ in. large male and female joints by Pittsburgh Piping & Equipment Co.

Fittings, electric cast steel, by Pittsburgh Piping & Equipment Company.

Safety valves by Consolidated Ashcroft Hancock Company.

Blow-off valves, Yarway tandem.

Boiler valves: High pressure gates, Chapman Valve Mfg. Co.; high pressure globe valves, the Edward Valve & Mfg. Co.; check valves and motor operated non-return valves, the Edward Valve & Mfg. Co.; motor controls for non-return valves—Limitorque; others by Chapman; Thermostatic controls and valves for maintaining constant total steam temperature, Bailey Meter Co.

Gratings and stairways, "Mitco," supplied by Ingalls Iron Works.

### Feed Water System

Evaporators, two, Griscom-Russell Co., for make up water, capacity each, 5000 lbs. per hour; return tube type, single effect, maximum shell pressure 100 lbs. maximum tube pressure 100 lbs., normally supplied with 65 lbs. steam at normal full load.

Feed controls, two, Griscom-Russell, automatic float, for evaporator feed control.

Evaporator condensers, two, Griscom-Russell, 2 pass, removable bundle pattern and equipped with condenser type water head. Capacity 5000 lbs. vapor per hour plus flash from tube drains from evaporator. Tubes and heads 125 lb./sq. in. shell 70 lb./sq. in.

Direct contact extraction heater system, Foster Wheeler, consisting of eight extraction heaters, four per turbine, rain type direct contact, each with vent condenser.

Special centrifugal multi-section condensate pumps, two per turbine, one regular and one reserve, in four sections each.

Boiler feed pumps, four, 5 in. suction and 4 in. discharge type ML, 5 stage, double suction Allis-Chalmers boiler feed pumps, capacity 500 g.p.m. against an 880 lb. net head. Direct connected to Allis-Chalmers constant speed motors, 1750 r.p.m. 150 h.p.

### Miscellaneous, Pumps and Compressors

Gland water pumps, two, Dean Hill Pump Co., capacity 10 g.p.m. at 140 ft. head.

Evaporator feed pumps, two, Dean Hill, capacity 16 g.p.m. at 150 ft. head.

Hotwell overflow pumps, two, Dean Hill, capacity 100 g.p.m. at 70 ft. head.

Flash tank drain pumps, two, Dean Hill, capacity 25 g.p.m. at 84 ft. head.

Low level storage pumps, two, Dean Hill, capacity 125 g.p.m. at 110 ft. head.

Station sump pumps, two, Dean Hill, capacity 50 g.p.m. at 50 ft. head.

Booster pumps, two, Dean Hill, for generator air and oil cooler circulating water, capacity 500 g.p.m. at 10 ft. head.

Overhead traveling crane; Whiting Corp., electric, 60-ton main hoist, 10-ton auxiliary hoist.

Air compressor, Ingersoll-Rand type 20, single stage, single acting, vertical, duplex, 7 in. x 6 in.

Pumps, four, Foster Wheeler, Diphenyl circulating, capacity 200 g.p.m. at 270 ft. head.

Oil pumps, two, Schutte-Koerting ignition, capacity 10 g.p.m. at 200 ft. head.

Pump, Schutte-Koerting lubricating, oil transfer, with direct connected motor; capacity 46 g.p.m. at 15 lb. sq. in.

### Motors for Auxiliary Drives

Westinghouse: Four, 75 h.p., 200 r.p.m., for circulators.

Allis-Chalmers: Four, 125 h.p., 1800 r.p.m., for condensate pumps; four 150 h.p., 1750 r.p.m., for boiler feed pumps.

**General Electric:** Two, 7½ h.p., for circulating water screens; six, 1/10 h.p., 1800 r.p.m., for scale drives; two, 10 h.p., 1800 r.p.m., for low level storage; one, 25 h.p., 375 r.p.m., for air compressor; two, 30 h.p., 345 r.p.m., for crane, main and auxiliary hoist; two, 10 h.p., 845 r.p.m., for crane, trolley and bridge.

**Fairbanks-Morse:** One, 200 h.p., 1800 r.p.m., for ash sluice supply; six, 60 h.p., 600 r.p.m., for pulverizer drives; six, 30 h.p., 1200 r.p.m., for primary air fans; six, 30 h.p., 1800 r.p.m., for secondary air fans; four, 40 h.p., 720 r.p.m., for induced draft fans; two, 5 h.p., 1800 r.p.m., for gland water pumps; two, 5 h.p., 1800 r.p.m., for evaporator feed; two, 5 h.p., 1800 r.p.m., for hotwell overflow; two, 5 h.p., 1800 r.p.m., for low level storage; two, 2 h.p., vertical, 1800 r.p.m., for station sump; four, 30 h.p., 1800 r.p.m., for diphenyl circulation.

**Star Electric Co.:** Six, ¼ h.p., 600 to 2000 r.p.m., for feeder drive.

#### Electrical Equipment

**Transformers,** seven, 6250 kw-a. single phase outdoor type, Maloney Electric Company.

**Transformers,** seven, 400 kw-a. station auxiliary, Federal Electric Co., Inc.

**Transformers,** three, 25 kw-a. single phase, station lighting, Federal Electric Co.

Control cable by Okonite Company.

Cell structures by Alberene Stone Co.

Switchgear equipment by General Electric Co.

Battery by Philadelphia Storage Battery Co.

Main generator leads by General Electric Co.

Main control board by General Electric Co.

Station auxiliary switchboard by General Electric Co.

Exciter and metering board by General Electric Co.

Station lighting and d.c. control switchboard by General Electric Co.

Reactor by General Electric Co.

Motor generator set by Westinghouse Electric & Manufacturing Company.

Power distribution cabinets by Bulldog Electric Company.  
Motor generator set (spare exciter) by Westinghouse Electric & Manufacturing Co.

Ornamental lighting fixtures by Bayley & Sons, Inc.

Highway lighting standards by Veco Manufacturing Co.

Lighting distribution cabinets by Westinghouse Electric & Manufacturing Co.

Bus supports and clamps by Delta Star Electric Co.

Grounding clamps by Borden Electric Company.

Bushings by Ohio Brass Company.

Cable terminals and branch joints by General Cable Corp.

Safety switches by Cutler-Hammer Co.

Carrier current telephone equipment by General Electric Company.

Telephone booth by J. E. Sjostrom Company.

#### Miscellaneous

Building steel by Ingalls Iron Works.

Diphenyl expansion tanks, diphenyl storage tanks, diphenyl dump tanks by Lancaster Iron Works.

Fire extinguisher by Walter Kidde Co.

Elevator by Otis Elevator Co.

Sanacoustic ceiling in control room by H. W. Porter Co.

House generator air filter by American Air Filter Co.

House generator air filter ducts by Connery & Co.

Transformer car by Easton Car & Cont. Co.

Coal sampling screens by W. S. Tyler Co.

DeLaval-Funk process oil purifier by Westinghouse Electric & Manufacturing Co.

#### Special Equipment

Diphenyl oxide and naphthalene solution for use in remote air heaters by Dow Chemical Company.

## To Discuss Silver Problem

Various phases of the silver problem will be discussed at one of the plenary sessions of the Fourth Pan American Commercial Conference, it is announced by the Pan American Union, under whose auspices the conference will be held. Commercial leaders from the 21 American republics will come to Washington for the week of October 5 to consider this and other outstanding problems, it is stated. Further:

"Several nations of the American continent, notably Mexico, the United States and Peru, leading producers of silver, have been strongly affected by the world crisis in the silver industry, which has been accelerated, according to economists, by oversupply rather than overproduction. It has been pointed out that the usual claim of overproduction cannot be applied to the silver industry, inasmuch as in the decade since 1921 average annual world production has been about 230,000,000 ounces, while consumption has exceeded this figure by about 35,000,000 ounces annually."

"The low price of silver, which at present gives it a value of only one-sixtieth that of gold, has caused tremendous losses to the millions of India's population who have stored away silver deposits, even though that country has been on a gold standard since 1926. In China also the silver situation has caused serious repercussions."

"Regarding only the American continent, affairs became so acute in Mexico that it was necessary some months ago for the Mexican government to postpone

gold payments on its foreign debt for a period of two years, due to the large losses that would be incurred in buying gold with silver to make the payments. As a remedy, the procedure was adopted of allowing Mexico to make silver deposits for debt service in a Mexico City bank, the service to be paid at a future date when silver may have attained a higher value in relation to the gold in which payments must be made."

"Peru, one of the leading nations of the world in silver production, has also been adversely affected by the low price of silver, though not to the same extent as Mexico."

"With Mexico producing 105,000,000 ounces of silver in 1930, the United States over 50,000,000, and Peru over 20,000,000, or a total of over 70 per cent of the world production in that year, consideration of the silver problem by representatives of these three nations at the forthcoming Commercial Conference will undoubtedly have an important effect on any future negotiations conducted on the silver situation."

### \$418,000 Building Addition

Washington, D. C.—General contract to erect a new addition to its building has been awarded by the National Geographic Society to the George A. Fuller Co. Plans call for a 4-story building, 107 by 100 feet, to be erected on the south side of the existing structure, and for alterations to the latter which will permit its junction with the new building. The cost of the work is estimated at \$418,000. Arthur B. Heaton, Washington, is the architect.

## MAY BE LARGEST CIGAR FACTORY

**Big Charleston Plant to Make 1,000,000 Cigars Daily**

Charleston, S. C.—Making Cremo cigars under a "Two Year Plan," the American Cigar Company, New York, is developing its Charleston cigar factory into the largest plant of its kind in the world, with a view to bringing its output to 1,000,000 cigars daily by the beginning of 1933. The factory is now producing from 350,000 to 375,000 cigars daily and employs 1200 workers. Additional employees are being added at the rate of 25 weekly and this policy will be followed for the next 28 weeks, it is said, bringing the force to 2000 workers. New sanitary standards in the cigar industry, made possible by the introduction of machine methods of manufacture which eliminate unclean practices, have made it necessary to train an entirely new type of worker for the Charleston factory, as well as other plants of the company, according to H. W. Jefferson, supervisor of Eastern factories. Every department of the big Charleston plant is affected by the expansion program. The factory has its own box-making plant with a capacity of 40,000 boxes daily, enough for its present needs and for the Northern factories of the company. It also maintains a cafeteria seating 600, and a first aid room with a nurse in charge.

## Pennsylvania Railroad Completes

### Produce Depot in Baltimore

A \$750,000 produce terminal for the Pennsylvania Railroad has been completed and formally opened at its Mount Vernon yards near North Avenue, practically doubling the railroad company's facilities for handling perishable freight in Baltimore.

The structure is of steel construction, fireproofed with concrete up to the roof, which is fireproofed with gypsum and upon which is laid a 20-year composition roof. Exterior walls are of brick ornamented with panels and small blocks of limestone capped with limestone copings. The building proper is two stories high, lengthening into a one-story shed portion. The two-story part is 300 feet long and the remainder 360 feet long, making a total of 660 by 72 feet. A loading platform, over which is a fireproofed steel marquise, runs the full length of each side of the building. Opening onto this platform are steel rolling and steel slide-up doors. Above these are steel sash in the one-story portion and steel double hung windows in the office portion. The foundation and structural steel work are so constructed that the office portion may be extended over the one-story shed portion. The building will be used for receiving and selling fresh produce by commission merchants whose offices are on the second floor. Also on this floor is an auction room fitted with 204 desks and an auctioneer's platform.

Steam for heating purposes will be brought from the present pumping station which exhausts the smoke from the North Avenue tunnel, the feature of the system being that if this outside source of supply fails, an engine may be pulled up to the building and supply the necessary steam until repairs are made to the outside lines.

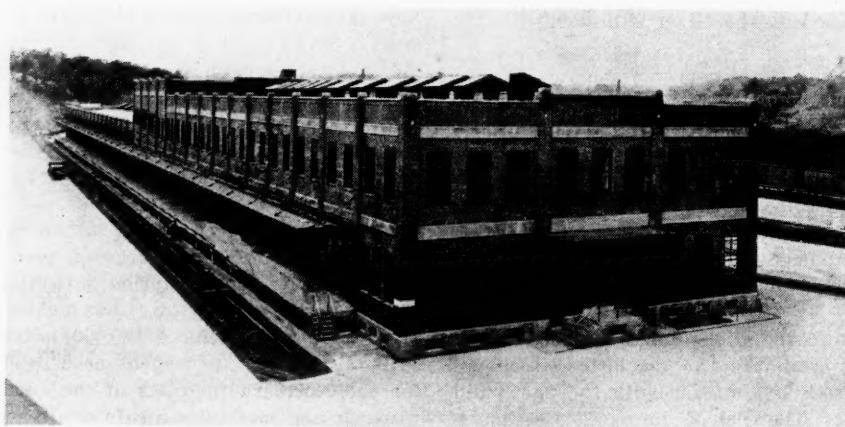
The main floor is laid on the earth and is of concrete with a cement finish. All office floors are wood; the corridors and auction floors are of cement finish, having an exposed Alundum aggregate. The second floor is reached by two main stairs and a stairway enclosed in a tower which also gives access to the roof. Skylights provide lighting and ventilation. A basement, 40 by 70 feet, divided off by wire partitions, is used for offices.

With eight 2300-foot team tracks, the new yard can easily accommodate 325 cars. Sixty-foot concrete driveways will separate each pair of tracks, allowing ample room for motor truck movement.

M. A. Long Co., general contractors, Baltimore, erected the building from plans by the railroad architects. Subcontracts were awarded the following firms, of Baltimore except as otherwise designated:

**Structural Steel**—Dietrich Bros.

**Miscellaneous and Ornamental Steel**—Maryland Steel Products Co.



\$750,000 Pennsylvania Produce Terminal Now in Operation

**Reinforcing Steel**—Kalman Steel Co., Chicago, Ill.

**Cut Stone**—Rullman & Wilson

**Vertical Sliding Doors**—Richmond Fire-proof Door Co., Richmond, Ind.

**Steel Sash**—J. S. Thorne Co., Philadelphia, Pa.

**Double Hung Windows**—Campbell Metal Window Corp.

**Kalamein Doors**—Phillip Mfg. Co., Easthampton, Mass.

**Steel Rolling Doors**—Cahill Co., New York

**Corrugated Fire Doors**—Richmond Fire-proof Door Co.

**Seats and Desks**—Steel Furniture Co., Grand Rapids, Mich.

**Gypsum Roof**—J. B. Eurrell, Philadelphia, Pa.

**Roofing and Sheet Metal**—Philip Carey Co.

**Millwork**—Heise & Bruns Mill & Lumber Co.

**Plumbing, heating and Electric Work**—Riggs Distler & Co., Inc.

**Plastering**—Ernest Brannock

**Dampproofing**—Architectural Waterproofing Contractors, Philadelphia, Pa.

**Glass**—Pittsburgh Plate Glass Co., Pittsburgh, Pa.

**Painting**—H. Chambers Co.

**Hardware**—Hubbard & Eagleston

**Caulking**—J. S. Galbraith Co., Philadelphia, Pa.

**Tile and Marble**—Harker Tile Co.

**Glazing**—Eastern Glazing Co.

**Brick and Face**—R. S. Green

**Common Brick**—Burns & Russell Co.

**Lumber**—James Lumber Co.

**Vitrilite**—National Fireproofing Corp., Pittsburgh, Pa.

**Metal Toilet Partitions**—Mills Co., Cleveland, Ohio.

### Piedmont Processing Company

Belmont, N. C.—The Thies Dyeing & Processing Company has been reorganized as the Piedmont Processing Company, the new organization to occupy the building formerly owned and occupied by Thies and retaining its main offices at Belmont. The company's mill building is practically new with adequate space to accommodate additional machinery that may be installed later. During the past few months several new package and beam dyeing machines have been added to the original equipment, making the plant one of the best equipped dye houses in the country. Gerald A. Cooper, formerly of Cooper-Kenworthy, Inc., Providence, R. I., is general manager and treasurer of the new company, which expects to offer expert commission processing in addition to merchandising any type of dyed or bleached combed and carded yarn. Other officers include B. E. Geer, Greenville, S. C., president; A. C. Lineberger, Jr., vice-president, and W. H. Crenshaw, assistant treasurer.

### 17-Story Hotel for Augusta

Augusta, Ga.—Plans and specifications are expected to be completed about August 10 by Scroggs & Ewing, local architects, for the construction of a 17-story hotel here to contain 185 rooms and baths. The structure will be of brick and steel, with stone trim, and will be equipped with a vapor heating system, mechanical ventilation and three elevators. H. P. Burum is interested in the enterprise.

# Southern Carload Iron and Steel Rate

THE Interstate Commerce Commission recently rendered its decision in connection with an investigation and suspension proceeding involving the carload rates on iron and steel articles from Birmingham and group and other points in the South to destinations in New England Territory, Eastern Territory and the Buffalo-Pittsburgh Territory.

By tariff schedules filed to become effective November 12, 1929, the carriers substantially advanced the rates on iron and steel articles, carload, from Birmingham and other producing points in the South to destinations in the East. Southern producers protested these advanced rates before the Commission and they were suspended pending hearing and investigation as to what rates would be just, reasonable and non-prejudicial.

Prior to the hearing of the case, Southern carriers and Southern shippers got together on a substitute basis of rates which they submitted to the Commission at the hearing to supplant those increased rates previously suggested. Below are shown from Birmingham to important destinations, the distances, present rates, rates originally proposed and the rates proposed by the shippers in the South and Southern carriers at the hearing:

must be accorded rates into the North and East on an exact relative basis, distance considered, with the rates effective within Northern and Eastern Territory. Stated differently, the Northern railroads were endeavoring to have the rates made strictly on what they termed transportation conditions and in disregard of other equally important elements of rate making, whereas Southern producers and Southern carriers were pleading for a rate structure which would eliminate rate walls and rate barriers and would enable Southern produced iron and steel articles to move from the South into the North and East on a relative rate structure with their Northern neighbors and competitors.

In refusing to permit the present rates to be advanced, the Interstate Commerce

By

C. E. JONES

General Manager,  
Birmingham Traffic Association

ern manufacturers would have serious, if not insurmountable, difficulty in competing with Northern manufacturers in the destination territory if the proposed rates became effective. \* \* \*

"The burden of proving the lawfulness of the proposed rates is upon respondents, and we are of the opinion that they have not sustained it."

However, the Commission did not approve and order into effect the substitute or alternative basis as offered by Southern shippers and Southern carriers. In all probability the case must again be fought over unless the Northern railroads are willing to now concede that the South is entitled to relative rates to the Northern and Eastern Territory, but the Commission's decision in my opinion goes a long way in support of the important principle of rate making which has been so vigorously advocated by the South in recent months; namely, that on commodities produced in the South and marketed in the North and East where there is not a sufficient market within the South to consume the products, they should be moved into the Northern and Eastern Territory on basis of a rate structure not in excess, distance considered, of that paid by the Northern producers.

From Birmingham To	Miles	Southern carriers and Southern shippers proposed substitute basis		
		Present Rate	Proposed of rates Increased suggested Rate at the hearing	
Boston, Mass.	1209	51	69	59
New York, N. Y.	990	49	65	50
Philadelphia, Pa.	898	49	62	47
Baltimore, Md.	808	49	60	45
Elmira, N. Y.	1014	49	69	51
Albany, N. Y.	1121	49	69	54
Syracuse, N. Y.	1049	49	69	52
Rochester, N. Y.	970	49	66	50
Scranton, Pa.	978	49	65	50
Lancaster, Pa.	866	49	62	47
Harrisburg, Pa.	843	49	62	46
Trenton, N. J.	925	49	64	48
Wilmington, Del.	877	49	62	47
Washington, D. C.	760	49	60	43

The Northern and Eastern railroads vigorously fought for a substantial increase in the existing rates. In fact, they contended for the rates first published as herein shown, but Southern shippers and Southern carriers just as vigorously contended that the present rates were not unduly low and should not be increased. It was further contended on behalf of Southern producers of iron and steel articles that the South

Commission said among other things the following:

"It is undeniably true, as here contended, that the present rates from the South to the North are a result of market competition, but that fact in itself is no proof that such rates may be lawfully increased, and more particularly by abrupt increases such as here proposed which would do serious violence to a legitimate business long fostered by respondents. The evidence upon this record leaves no doubt that the South-

## Treated Timber Products

Chemically treated poles and foundation timber are becoming more widely used, as shown in construction specifications by public utilities and contractors. In 1930 more than 4,276,000 poles were treated. The industry is making steady progress and has reached large proportions in the creosoting plants of the South which now operates some of the largest in the world.

A noticeable trend in the industry is the steady gain made in creosoted pine during the period of business recession. Based on the 1930 Census for the industry there was an increase over 1929 of 21 per cent in number of pine poles treated.

Number Poles Treated by Kinds of Wood	
Southern pine	1930
Cedar	2,428,000
Western red	1,125,000
Northern white	425,000
Chestnut	139,000
Lodgepole pine	96,000
Douglas fir	12,000

## Use of Welding as a Profit Factor

Many industries have been able largely to prevent costly and extended shut-downs because of broken machinery, have facilitated repairs and reduced maintenance costs by the efficiency and flexibility of modern welding methods. Some plants carry full-time welders on their payrolls, others depend on the contract welder.

An active educational and sales policy on the part of manufacturers of welding equipment and by contract welding firms, backed by instances of actual money-saving operations, has created a receptive spirit among industrial owners and operators the country over. Where 25 years ago the weld was confined almost solely to pipe, today finds it in use for fabrication of boilers and pressure vessels of many types, as well as for the repair of complicated machine parts. Many of the larger firms, such as the Newport News Shipbuilding & Dry Dock Company, Hedges-Walsh-Weidner Boiler Company and others which maintain welding departments, are developing new welding uses and practices.

Records of Charles Kimball, president of the Chattanooga Brazing and Welding Company, show some of the earliest pipe welding jobs in Chattanooga to date back 20 years. In 1911, a set of ammonia coils composed of two-inch iron pipe was installed in the plant of the Atlantic Ice Company and welded in 608 places. The plant has been in continuous service without record of a leak in welded joints. In 1913, the high pressure steam plant of the Southern Chemical Cotton Company was installed and all degrees and angles were joined by welding. Chattanooga's low-pressure gas main was put down and welded in 1914. The new gas line in the Red Bank suburb of Chattanooga recently was welded in all joints and tested at 100 pounds pressure. Out of 1800 welds, only three leaks were found.

As a specific example of economy, Mr. Kimball recorded a cost of \$225 to weld a pipe line half a mile long on the Walnut street bridge over the Tennessee River. It is indicated that the use of welded joints has eliminated the probable necessity of removing and repairing one section at almost twice the cost for welding the entire line.

Several of Chattanooga's industries

are playing a leading part in the advancement of welding methods and practices. The Hedges-Walsh-Weidner Company, manufacturers of boilers and pressure vessels, has issued literature describing methods in use in its plant. It also has contracted to fabricate a welded drum, one of the first under the code amended by the ASME to permit welded seams on this character of work. Chattanooga Boiler and Tank, Lookout Boiler and Manufacturing Company, American Manufacturing Company, manufacturers of hardware, and several other metal fabricating companies are utilizing the various welding processes in their work.

The Chattanooga Brazing and Welding Company, one of the oldest and largest contract welding firms in the South, serves industry in seven states. This company employs every known method, and has had particular success in the welding of monel and other non-ferrous metals.

### \$25,000,000 RAIL PROJECT COMPLETED

#### Missouri Pacific Lines Build 126 Miles Double Track

St. Louis, Mo.—The Missouri Pacific Lines have expended approximately \$2,275,000 this year in bringing to completion the double-tracking of its main line west out of St. Louis to Cole Junction, Mo., a distance of 126.2 miles, according to President L. W. Baldwin. Entailing a total expenditure of \$25,000,000, the project has been carried on without interruption since the spring of 1925, and is now entirely complete except for a short stretch through two tunnels on the western outskirts of St. Louis. A large number of curves were eliminated and grades reduced. The double-track program was inaugurated because of the railroad's increasing business in the territory west, southwest and northwest of Kansas City, and handled to St. Louis and the East through Kansas City, which was rapidly reaching a tonnage exceeding the capacity of a single track railroad. The company already had two main line tracks between Kansas City and Cole Junction.

### \$2,500,000 Electrification Contracts

Pushing its plans for electrification of its lines between New York and Washington, the Pennsylvania Railroad has awarded five additional contracts, involving approximately \$2,500,000. The Arundel Corporation, Baltimore, was awarded contract for catenary foundations between Baltimore and Washington, at \$742,000, and for a multiple duct underground conduit system between Loudon Park, Baltimore, and New York avenue, Washington, at \$434,500. Contract for catenary foundations between Perryville, Md., and Baltimore, was awarded to the John F. Casey Co., Pittsburgh, Pa., at \$529,000; a multiple duct underground conduit system between Havre de Grace, Md., and the Back River bridge, near Baltimore, was awarded to the James McGraw Co., Philadelphia, Pa., at \$383,000, and a similar system between West Yard, Wilmington, Del., and Perryville, was awarded to the Vare Construction Co., Philadelphia, at \$404,600.

### \$4,400,000 Knoxville Construction

Knoxville, Tenn.—At no time in recent years has such an extensive building program been under way in Knoxville as is now in progress, nor one that involved such heavy expenditures. The present program calls for an outlay of approximately \$4,400,000 and involves the following structures, which constitute the major items: Henley street bridge, \$1,000,000; county schools, \$500,000; Kern's Bakery, \$200,000; new post office, \$1,200,000; University of Tennessee buildings, \$500,000; viaducts, \$100,000; paving, \$100,000; warehouse, \$25,000; North Knoxville market, \$50,000; modernization construction, \$100,000; residences, \$50,000, and sewer and water main extensions, \$600,000.

### Norfolk to Receive New Ship

Norfolk, Va.—The City of Norfolk, the second of five ships which the Baltimore Mail Steamship Company plans to put into Baltimore-Norfolk-Havre-Hamburg service, is scheduled to arrive at Norfolk August 4 from Kearny, N. J. The liner has been given her trial run and after some finishing details have been completed at the shipyard at Kearny, she will sail for Norfolk and will be welcomed with a reception. The City of Norfolk will remain at Norfolk until August 6, when she will sail for Baltimore. She is scheduled to leave Baltimore for Hamburg a week later.

# Gadsden Is Busy

**A**S the people of Gadsden, Ala., size up conditions in their city, they are reasonably and comfortably busy. To an observer of conditions over a wide area, they seem extremely busy. And in speaking of Gadsden one covers also Alabama City, Attalla and other adjacent communities.

For one thing, the textile mills are "working well" — the Standard-Coosa Thatcher Company, reputed to be the greatest yarns plant in the world, is reported to be running at 100 per cent, day and night. Chimneys of the great Gulf States Steel plant, employing normally 2000 men, continue to smoke, and the foundries, rubber and other factories show signs of active industry.

Advantage has been taken of favorable conditions for building and other construction by both the municipality and the people.

Under an expansion program, two modern school buildings have been completed, and 2500 residences have been erected in the past three years.

The city has completed the paving of every street, at a cost of \$173,000 for the final part of this great work.

Two thousand customers have been added to the patronage of the municipal water plant, which also supplies water in bulk to Alabama City, with nearly 9000 people, and Attalla, with more than 5000, besides the 25,000 of Gadsden itself.

Seven hundred thousand dollars is in course of expenditure for the plant of Holy Name of Jesus Hospital.

A new unit for the General Hospital will cost \$250,000 when completed.

A new hotel of nine stories has been opened.

The sewer system has been expanded and improved.

Interest now centers largely on the finishing touches to a great scenic highway along the backbone of Lookout Mountain, stretching from Gadsden in the south 100 miles to Chattanooga, Tenn., at the northern end. Not only has construction of this highway provided a large amount of work and demanded great supplies of materials, but also the road is expected to carry thousands of visitors from all parts of the

*By*  
**GEORGE GARNER**

men, as the textile plants are secondary to those manufacturing steel, iron, wood and clay products. This total, however, is only a small part of the labor available in the Gadsden area.

The industries and people of Gadsden and its area may not be working at present at 100 per cent; but, they are very, very far from idle.

country into Gadsden and its environs. Besides this, Gadsden enjoys traffic on the Forest highway, between Memphis and Atlanta; the Lee highway from the East, via Chattanooga to New Orleans, and the Florida Short Route, from North-Central points via Nashville to Florida.

Like many other cities and towns of the South and Southeast, Gadsden has added natural gas to its supply of electricity and coal, for industrial, commercial and domestic use. At the edge of the Plateau coal field and within easy reach of the Birmingham mines, the city obtains excellent steam coal at reasonable rates, and electric current is brought in by high tension lines of the Alabama Power Company, with a steam plant also in Etowah county. The pipeline of the Southern Natural Gas Corporation runs eastward from Louisiana to Atlanta and other Georgia cities, and Gadsden and its neighbor Anniston draw on this supply for their needs.

Removal of the Victory mills, making fine cloth, from Saratoga, N. Y., to Gadsden is expected to be followed by similar migration by other plants from various sections to Gadsden, or the area of which it is the center.

"We are amazed and delighted by the efficiency and intelligence of the American labor in the South," an official of the Victory mills is quoted as asserting. "We had expected that three years would be required to instruct new hands here in the intricacies of the work, but we find they become actually proficient within six months."

Information to this effect has been transmitted to concerns in the North, and the dissemination of this knowledge is expected to attract other manufacturing concerns.

Under normal conditions, the manufacturers of the Gadsden district employ about 8000 workers, a large majority

in normal, everyday fashion, life in Gadsden continues with little reflection of the worldwide economic stress. The people buy and sell and trade. Something like \$13,000,000 a year passes into the tills of the retail merchants. Nearly 300 stores of many lines border on the streets, with \$1,800,000 of stock on their shelves. Virtually \$2,500,000 a year is spent in the grocery stores and meat markets, and the bakeries appear to flourish. The people of Gadsden do not seem to suffer from malnutrition.

The automobile and accessory, and tire and battery shops report a business around \$3,500,000. The men and women and children of Gadsden pour \$2,500,000 each year into the department and dry-goods stores and the general stores and notion shops, while the clothing shops, millineries and shoe and hat establishments take in \$885,000. The furniture and housefurnishing tradesmen seem to prosper on receipts over \$1,100,000, and the lumber yards and building materials retailers do a business over \$640,000. The totals for jewelry stores, drug stores and other trades are equally impressive.

An appreciable part of this trade comes in from Gadsden's prosperous environs, and the real size of the city is much larger than the 25,000 attributed to it by the census.

## \$1,435,000 Federal Building Bids

Little Rock, Ark.—Bids in duplicate will be opened August 17 by the Treasury Department, Washington, Jas. A. Wetmore, Acting Supervising Architect, for the construction (except elevators and dumb waiters) of the new Federal building to be erected here. Drawings and specifications may be obtained from the office of the Acting Supervising Architect.

# Southeast Seeks Representation on Federal Farm Board

**S**INCE the Southeastern section is one of the oldest agricultural regions of the country, the residents of this section are inclined to look behind the immediate crops to the basic conditions of soil, seed, planting, harvesting and packaging. Without losing any interest in the immediate crops, the Southeastern business and agricultural leaders feel in order to avoid duplication of effort that their section of the country may well emphasize basic economic factors, while other sections go in more for experiments in marketing crops.

It is the consensus of opinion that the Southeast could work out its destiny along these experimental lines best if it were given a place on the Federal Farm Board. In that way, it could help other sections, as well as help itself, by bringing about proper correlation between agriculture and industry.

Since the problems of the Southeast are peculiar to it, only representation on the Farm Board by a leader from that section, familiar with its peculiar problems, will, in the opinion of leaders, meet the situation adequately. Southeastern people feel that in asking for one Farm Board position for the ten Southeastern states, they are not asking too much, since the middle portion of the country has six positions on that Board.

A committee from the Southeastern section called upon President Hoover recently urging him to appoint Dr. Burdette G. Lewis of Green Cove Springs, Fla., as a member of the Farm Board. They presented a memorandum setting forth conditions prevailing in the Southeast and their reasons for asking for the appointment of Dr. Lewis. That memorandum reads in part as follows:

"Ten Southeastern States, with a population of 22,811,032 have 15.4 per cent of the farm lands of the country; 11.4 per cent of the total farm value of the nation; and approximately 18.6 per cent of the total farm products value of the nation.

"There is no member of the Farm Board from this section, which produces

By  
**WILLIAM L. WILSON**  
Panama City, Fla.

a majority of the cash crops of the United States.

"Due to low prices for farm products and bad credit conditions, the agriculture of the Southeastern States is passing through a very serious situation.

"The reduced purchasing power of the farmer has taken away industry's best market, and this buying power must be restored before business can prosper.

"It is obvious that the problem of the business reorganization of Agriculture—the task of the Farm Board—requires a careful analysis of conditions and a rehabilitation program. This program in the Southeastern States should embrace the following:

1. Crop diversification.
2. Cooperative marketing.
3. Better credit facilities.

"The Federal Farm Land Banks, Intermediate Credit Banks and Farm Board provide the necessary Government machinery to carry out this three-point program.

"Crop diversification, or the live-at-home program, will not come as long as the farmer must rely upon the time merchant and country bank for his credit. They, by insisting upon payment of debts at harvest time, encourage over-production of cash crops and discourage orderly marketing through cooperative associations. Credit corporations supervised by the Farm Board and Intermediate Credit banks must rebuild the credit system.

"Cooperative marketing, in giving them organized bargaining power, provides the only guaranty of fair prices to the producers.

"The organization of the farmers into such associations, their financing and sound business administration, is the foundation upon which the present Government farm reconstruction program rests. If this business policy fails the proposal of undesirable farm relief legislation will follow.

"At present the cooperatives are small. Of a total of 850,000,000 pounds of tobacco produced in these states this year,

only 17,000,000 pounds were marketed cooperatively.

"The underlying social, economic, racial and credit conditions make it difficult to organize and successfully to operate crop marketing associations in the South.

"The situation requires sympathetic and understanding treatment. The present Government machinery skilfully employed, can correct these conditions over a period of years, with each year showing marked progress, as is already apparent from the Farm Board's helpful service to the Gum Turpentine-Rosin Marketing Association and the Florida citrus fruit growers.

"Believing that Burdette G. Lewis, by reason of his experience and sympathetic understanding of Southern conditions, is the best qualified man in the country to carry this program to success, we earnestly urge his appointment as a member of the Farm Board."

(Signed)

John S. Taylor, president, Florida Horticultural Society and vice-president and director, Florida Citrus Exchange, Largo, Fla.

Hugh MacRae, chairman, Southeastern Economic Council and Farm Settlement Leader, Wilmington, N. C.

William L. Wilson, chairman, industrial dept., Florida State Chamber of Commerce, Panama City, Fla.

F. H. Prine, vice-president, Florida Truck Growers, Inc., Bradenton, Fla.

Merton E. Corey, receiver, Tri-State Tobacco Cooperative, Richmond, Va.

Samuel Looney, vice-president, Growers Loan and Guaranty Company, Subsidiary of Florida Citrus Exchange, Tampa, Fla.

Senator W. F. Glynn, representing Florida Citrus Growers Clearing House Association, Winter Haven, Fla.

Frank Hammert, Editor and Publisher, Florida Farm and Grove, Tampa, Fla.

The Southeast feels in making these recommendations that it has something very constructive to offer the remainder of the United States, which, if worked out through a period of time in cooperation with other sections of the country will be of great benefit to the nation. The conditions peculiar to the Southeast are as follows:

It has some outstanding seed breeders

and planting demonstrators whose constructive results have had and will have far reaching consequences. Notable among these is David Coker of Hartsville, S. C.

It has some outstanding examples of group farming and of farm settlements, the oldest and most interesting of which is that sponsored by Hugh MacRae near Wilmington, N. C.

It has the largest group of farmers in the nation, who have for many years barely achieved subsistence.

It has more than any other section of manufacturing plants situated in the country adjoining rich farm lands already available for immediate experiments in part time manufacturing and agriculture, such as Henry Ford has been advocating for some time. Notable among these are some textile mills in North Carolina whose workers have been growing gardens.

A few South Carolina textile mills have carried forward some worthwhile cooperation between cotton growers and their mills, according to which the mills have given prizes to the growers of the best grades of cotton and have given a premium to all growers furnishing cotton fiber of the proper length.

There are a few outstanding examples in Georgia and Alabama of cooperation between banks and farmers which have preserved farm credit in liquid condition and have almost eliminated losses on farm loans.

Several counties in North Carolina have made such progress in a live-at-home program achieved under the leadership of Governor O. Max Gardner.

The whole naval stores industry of the Southeast is now organized and should have the fullest cooperation of the Farm Board in working out its destiny.

All lines of effort are now organized as no other section of the country save California and New England, to the end that cooperation between agriculture, industry, finance and transportation may be carried forward promptly.

While the Southeast has suffered along with other sections of the country from the deflation of agricultural prices since 1921 and of all prices since 1929, it is again being demonstrated that a country predominantly agricultural can pass through a depression more safely than one predominantly industrial. After all, people can grow their own living on their land.

If it becomes necessary for every section of the country to become economically self-sustaining, then the progress that has already been made and can easily be made in the near future in the Southeast will be of outstanding significance to those sections of the country which have not yet developed this technique.

## Additional Tung Trees for Mississippi

Pass Christian, Miss., July 27—Development of the tung oil industry in the coastal region of South Mississippi is moving steadily forward. Approximately 9700 acres of cut-over pine lands have been planted to tung trees in this section within the past two years. Over 3,000,000 seedling tung trees are now growing in South Mississippi nurseries and will be transplanted to more cut-over land next winter. This number of trees will cover more than 20,000 acres, bringing the total tung tree acreage in the coast section up to 30,000 acres within the next eight months.

The most extensive work is in the vicinity of Picayune. Lamont Rowlands has planted 6000 acres in tung trees in that section and has 1,300,000 seedling tung trees in a nursery of 350 acres. These will be transplanted next winter. On the creek bottoms and drainage basins which cannot be planted to tung trees Mr. Rowlands is developing a live stock industry, thus utilizing all the land incorporated in the tung oil project.

The American Tung Oil Products Corporation, represented by Thomas H. Hawkes of New York and Pass Christian, has about 1,500,000 seedling trees in nurseries near Picayune and Carriere, Miss. These are to be transplanted next winter, the number being sufficient to cover more than 10,000 acres of cut-over pine land.

L. O. Crosby, lumberman and mayor of Picayune, is also getting into the business on a large scale. He has 200 acres in growing trees and plans to extend the planting on some of his cut-over land.

Within two or three years the yield of tung tree seed from the groves in the

Picayune district will reach commercial quantities and it is expected an oil mill will be built to extract oil from the seed.

The Citro Hi-Land Farms, Maxie, Miss., has planted 500 acres in tung trees and will plant 1000 acres more next winter.

I. J. Ringolsky of Kansas City, Mo., has planted a 200-acre farm near Lyman, Miss., to tung trees and blueberries, in alternate rows, 15 feet apart.

The Southern Chinawood Oil Company, owned by interests at Waukesha, Wis., has acquired extensive land holdings in Jackson county, eight miles north of Moss Point, Miss., and has gone heavily into the business. A large acreage has been planted and ground is being cleared for planting more trees next winter. The company reports that it will build an oil mill as soon as the grove produces seed in sufficient quantities to justify operation of a crushing plant.

The Tennessee Land Company, land holding corporation of the Tennessee Coal, Iron and Railroad Company, Birmingham, has planted 400 acres in tung trees for experimental purposes on its cut-over lands in Baldwin County, Alabama.

Growing of tung trees has become an important industry in the vicinity of Bogalusa, in Eastern Louisiana, a few miles from the development in the Picayune district in Mississippi. Soil and weather conditions in that section of Louisiana are about the same as in the Mississippi Coast area. Over 300 acres have been planted to tung trees in the Bogalusa section and 60,000 or more trees are growing in nurseries, to be transplanted next winter.



Two-year-old Tung Trees and Blueberries in Alternate Rows Near Lyman, Miss.

# Southern Road-Building

## Tennessee State Highway Program

### Impressive

*By*

**T. C. McEWEN**

Chief Engineer,  
Tennessee State Highway Department

Tennessee is just completing a very large construction program. The expenditures for the fiscal years 1929-1930 and 1930-1931 have been the largest in the history of the state. They were for 1929-1930, \$33,105,234.22 and for 1930-1931 \$30,455,476.54, making a total of \$63,560,710.76, of which nearly \$41,000,000 was for contract construction. A large amount of work has been done by state forces and of course the total expenditure includes all costs of maintenance, supervision, and management.

Expenditures for the first six months of 1931 were \$8,879,784.18, of which \$5,

752,210.85 was for construction. The department began the year with a contract liability of \$5,301,105.41, to which has been added new contracts since January 1 of \$4,201,105.41, comprising 100.4 miles of grading and drainage, 75.6 miles concrete paving, 16.9 miles rock asphalt surface on a concrete base.

For the remainder of the year 1931, expenditures will have to be curtailed to fit current income. The department is passing through a stage of reduction from a large construction program to a program which will be about equally balanced between construction and main-

tenance. Our estimates show that expenditures for the remainder of the year will be a little less than \$6,000,000, of which \$3,750,000 will be contract construction. The remainder will comprise maintenance, major improvements and supervision.

Current income for 1932 will approximate \$9,000,000, allowing a construction program of \$4,500,000 from State funds which will be supplemented by approximately \$3,600,000 of Federal funds, which are available for 1931 and 1932.

The state system as a whole is in very good condition comprising mileage as follows:

Type	Miles
Cement concrete .....	1106.1
Bituminous concrete .....	217.9
Rock Asphalt .....	364.7
Bituminous Macadam.....	451.3
Brick .....	16.8
Surface Treatment .....	1341.8
Gravel .....	2490.3
Improved earth .....	687.9
Unimproved earth .....	426.5
Total .....	7103.3

There are still a number of important links on the system that should be improved at this time. It is the hope of the department that additional funds will be made available during the present two-year period. Should they be, they will be added to the program indicated.



New Loudon Bridge, of Steel and Concrete Across Tennessee River

## \$11,500,000 for Virginia Roads

*By*

**C. S. MULLEN**

Chief Engineer,  
Department of Highways, Richmond, Va.

For this year the Department of Highways, Richmond, had available for new construction \$11,500,000. Of this amount \$6,893,053 was available for contract and free labor projects, and the balance of \$4,606,947 allocated to take

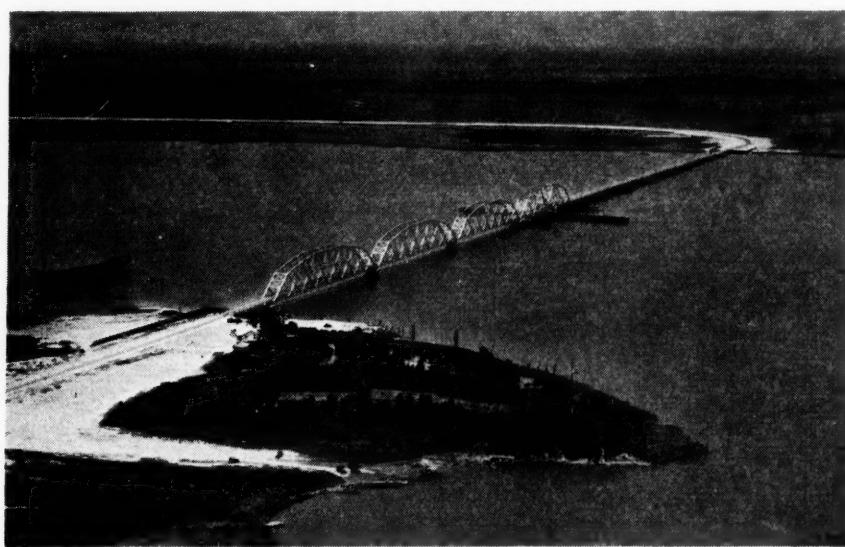
care of the 22 convict camps scattered throughout the state on highway construction.

This department, as of July 1, had let to contract \$3,288,272 for roads and bridges. We are listing below the mileage let to contract by types:

Type	Miles
Grading and drainage.....	50.44
Soil .....	52.48
Gravel .....	30.77
One-Course Macadam.....	63.65
Concrete 18 feet or over.....	22.06
Concrete widening 11 feet and over.....	24.16
Finlay asphalt .....	1.43

pavement and 157 miles of grading and drainage at a total value of \$3,026,000. On the whole, emergency work has progressed satisfactorily and we expect to

complete the entire program within the time limit of August 31. Due to lack of funds we have no program mapped out for the latter part of this year.



## \$3,000,000 in New Highway Awards in Mississippi

By

J. D. MONETTE

Office Engineer,

State Highway Department, Jackson

\$1,200,000 Rigolets Bridge, Crossing Rigolets Pass Which Connects Lake Pontchartrain and Lake Borgne in Louisiana

The Mississippi State Highway Department had a carry over from 1930 of 41 miles grading and bridges, 13 miles gravel and 42 miles of concrete pavement, valued at \$1,360,000.

Our new construction for 1931 has been confined to the emergency Federal aid projects. We have awarded 47 contracts covering 42 miles of concrete

## \$40,000,000 for Texas Roads in 1931

By

GIBB GILCHRIST

State Highway Engineer, Austin

From January 1 to July 1, 1931, 1450.9 miles of construction have been placed under way, together with the construction of 42 new bridges, with a total approximate cost of \$20,612,129. It is estimated that from July the first to December 31, 1931, there will be approximately the same amount of work put under way, making a total of \$40,000,000 in construction contracted on the State Highway System for the calendar year.

At the beginning of 1931, there was under construction work valued at \$24,879,480, covering 1,747.71 miles. Of the total valuation there remained outstanding an unpaid balance of \$10,351,514; therefore, in addition to the above \$40,000,000 which has been or probably will be placed under construction this year, the unfinished work brought over from the prior year amounted to the \$10,000,000 additional.

Maintenance, both regular roadway

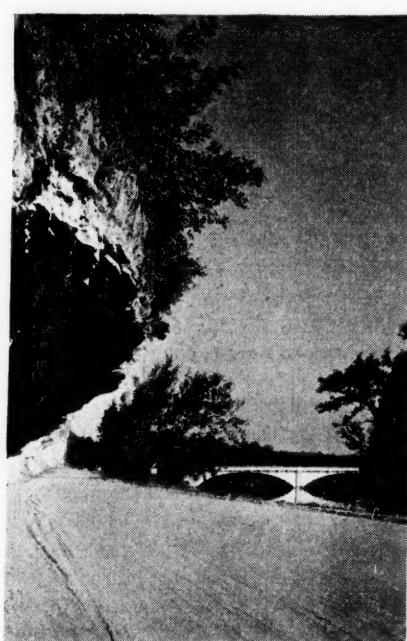
and betterment, will approximate \$12,000,000 during 1931.

The amount of work being placed under construction, both in mileage and in dollars and cents, exceeds any previous calendar year in the history of the State Highway Department, which was created in June, 1917.

The Forty-second Legislature of Texas adjourned on May 22, 1931, but no changes were made in taxation or revenue coming to the State Highway Department, or affecting the activities of the Department to any extent.

*Summary of Contracts Awarded for State Highways in Taxes, January 1 to July 1, 1931*

	Construction	
Type	Mileage	Amount
Grading and Drainage		
Structures .....	583.908	\$3,256,736.94
Gravel Surfacing .....	11.350	107,721.49
Bituminous Surfacing .....	160.172	1,514,602.29
Rock Asphalt and Macadam Surfacing .....	123.828	1,244,549.28
Concrete .....	571.649	11,965,733.23
Sub-Total .....	1,450.907	\$18,089,343.23
Bridges (42) .....		2,522,786.46
Total .....		\$20,612,129.69



A Highway in McDonald County, Missouri

## \$10,000,000 Total of Arkansas Road

### Awards in Six Months

*By*

**W. W. ZASS**

**Engineer of Construction,  
Arkansas State Highway Commission,  
Little Rock**

500,000, and 27,500 lineal feet of toll bridges costing \$6,580,000.

Indications are that highway construction this year in Arkansas will set a new high record. Expenditures for five months totalled \$9,638,866. To July 1 contracts awarded totalled approximately \$10,000,000, providing for the building to a large extent of high type paving, considerable bridge work and some grading and gravel surfacing operations.

In 1930 highway work represented an expenditure of \$15,602,100.



Pine Bluff-Grady Highway in Arkansas

A total of 3116 miles of highways of various types is now under construction for the State Highway Commission of Arkansas. Included are the following mileages: Grading and minor drainage structures, 1719; gravel, crushed stone and burnt shale surfacing, 1074; Portland cement concrete pavement, 110; bituminous concrete pavement, 84; bituminous retread surfacing, 121. Timber bridges, 2; reinforced concrete bridges, 5; structural steel bridges, 1.

In five months this year the following work has been completed: Grading and minor drainage structures, 189 miles; gravel, crushed stone and burnt shale surfacing, 202 miles; Portland cement concrete pavement, 161 miles; bituminous retread surfacing, 73 miles; timber bridges, 1 mile; reinforced concrete bridges, 6 miles; structural steel bridges, 1 mile.

Since the Martineau Highway Law became effective in 1927 a total of 8178 miles of the 8958 miles included in the Arkansas State Highway System have been improved, representing a total expenditure of more than \$72,000,000. To July 11 the classes of construction and the miles of each type built are as follows: Grading and minor drainage structures, 4218 miles; gravel, crushed stone and burnt shale surfacing, 3503 miles; Portland cement concrete pavement, 613 miles; bituminous concrete pavement, 58 miles; bituminous surface treatment, 12 miles; bituminous retread surfacing, 280 miles; timber bridges, 13 miles; reinforced concrete bridges, 19 miles; structural steel bridges, 4 miles.

Bridges constructed since 1927 totalled more than 31 miles in length and cost more than \$17,000,000. These were divided into 137,220 lineal feet of free bridges (not counting structures under 20 feet in length, which are classed as culverts), costing a total of over \$10,-

## \$11,500,000 for South Carolina Roads

### Expended First Half Year

*By*

**J. S. WILLIAMSON**

**Acting State Highway Engineer,  
Columbia**

During the first half of 1931 the State Highway Department has received bids and awarded contracts for 125 miles of concrete pavement, 230 miles of bituminous surfacing, 185 miles of earth type roads and 9700 feet of bridges. The estimated cost of this work is \$6,500,000 and almost this entire amount was included in a single letting held on June 9.

Although contracts awarded in the first part of 1931 represent a comparatively small volume of work, construction activities of the department have been in full swing this year, as a considerable volume of work was let to contract the last half of 1930 and carried over to 1931.

Expenditures for construction the first six months of this year have been \$11,500,000. Approximately 360 miles of standard concrete pavement has been constructed and approximately 280 miles of bituminous surfacing has been under construction, all of which will be completed within the next few months.

The program for the balance of the year is rather indefinite although it is believed construction activities will compare favorably with the first half.

The expense of maintenance of the State Highway System, which comprises approximately 6000 miles, during the first half of the year was \$1,046,000. Expenditures for the second half will be approximately the same amount.

## LETTERS FROM OUR READERS

### Urge Reduction of High Wage Scale

Rowan County Freestone Company, Inc.  
Farmers, Ky.

*Editor Manufacturers Record:*

Your editorial, "The Railroad Alternative," in the June 25 issue is interesting. It indicates at least a tendency toward what seems to be the correct position in this case. We see no reason why the general public and the shippers should be penalized in order to allow railroad employees to continue to receive their old wage level. Is there any reason why wage reductions should not take place when price levels decline? It seems to us that no matter how successful President Hoover has been in some matters, his insistence on maintenance of high wage levels in the face of steadily declining commodity prices is the greatest present bar to successful revival of industry.

We seem certainly to see in the building industry the greatest bar to renewed activity in the cost of labor. In a small way we face, as a producer, the same troubles that most businesses face, a declining sale price on our product, and constant labor costs.

C. B. VAN ANTWERP, Secretary.

### Lower Electric Power Cost

The James Leffel & Co.  
H. H. White  
Southern Sales Engineer

Atlanta, Ga.

*Editor Manufacturers Record:*

In your editorial "Another 'Octopus' Bugaboo," June 18 you make the statement that Federal Government figures show that electric current prices have progressively declined, in marked contrast with other commodity prices. You say: "While the cost for electricity has shrunk 18.5 per cent since 1913, the increase in prices for other necessities has ranged from 8 to 88 per cent in the same time."

That may be fact, but it is using only a one-sided view of the situation. It is not the electric power people who can be congratulated for a reduction in cost of power, but it is the American manufacturers of machinery to whom credit shall be given. The power companies are taking the glory from the manufacturers and not passing on the real lowered costs. Let the public know of the lowered costs of generating a kilowatt of electricity. It is the recognized principle that America owes its greatness to manufacturing efficiency and machinery development which has made living conditions in this country superior to those in others. Is it not a fair demand that power companies keep step with the machinery age?

In about a ten-year period the cost of

generating a kilowatt of electricity has been reduced about 60 per cent but by your own statement the power companies have only passed on 18.5 per cent. Is that equitable?

Utilities have profited by extension of their business as the varied outlets have tended to raise what is technically known as the "power factor" and interconnection of power lines and changes in voltage and improvement in electrical equipment have been responsible for a saving, but the real savings are shown in the improvement in steam and water power development.

During the war it took about 5 pounds of coal to make a kilowatt of electricity, but today power by steam is making a kilowatt with less than two pounds. In 1913 a water wheel of 80 per cent efficiency was good, but today we see a marvelous advance and tests on "Official Flume" has shown a water wheel to give an efficiency of 93.86 per cent and a commercial wheel was tested later at the "Official Flume" and actually did 94.57 per cent.

It has been proved that power can be made by steam for around 3 mills per kilowatt hour and power by water for about half of that.

It is the ingenuity of the American manufacturers that has reduced the cost of making power and to them should be given the credit, and demand should be made that other business keep step with the machinery age and power reduced accordingly. Revamp the water power plants by installing modern high efficient water wheels.

This is the information that seems to me to be your duty to pass on to your readers and I would like to see you publish these facts.

H. H. WHITE.

### Silver Question Important Too

Helena, Mont.

*Editor Manufacturers Record:*

Permit me to commend in strongest terms the two editorials in your July 2 issue, viz: "Further Facts About the Tariff" and "Taxation That Destroys."

The tariff editorial is sane and powerful; the facts you give are incontrovertible. It should be in the hands of every voter in the land. Many of our newspapers and insincere politicians decry the present tariff and the whole tariff principle, except where their own particular interests are touched, and lay the blame for the world-wide depression on our American tariff.

I would like to see you treat the silver question in the same vigorous and intelligent manner—the true, scientific relation of silver to gold as a money metal and in relation to the needs of the peoples of the earth.

GEORGE B. CONWAY.

### High Wages Alone Do Not Insure Prosperity

American Sash and Door Company.  
Kansas City, Mo.

*Editor Manufacturers Record:*

There are few subjects where political considerations and uneconomic and prejudiced suggestions have tended so greatly to confuse the unthinking as that of unemployment, the cause and remedy. When unemployment assumed a serious aspect, the maintenance of the existing wage scale was advocated, on the theory that a reduction would operate to reduce the purchasing power. This pledge was carried out in good faith.

Notwithstanding a reduction of 30 per cent in living costs, organized labor declares they will resist to the uttermost any attempt at reduction in the wage scale, which is tantamount to an increase at a time when millions are walking the streets seeking jobs and practically all basic industries have suffered a tremendous shrinkage of capital and are still operating at a loss. I believe in organized labor, but their contention under present conditions is untenable.

If labor is to be independent and in position to command high wages, the price of the product of labor must be consistent with the value asked in exchange for other commodities. Some would have us believe that so long as wages remain high there would be no serious business recession, and yet that is precisely what has happened in the present instance. Business declined, demand fell off and stocks of merchandise piled up for more than a year, while wages continued at the peak, and up to the present time wage reductions in large industries represent but a small percentage of the whole.

Recent history proves positively that high wages alone will not insure prosperity. Wages, or any other cause, that results in the sales price of any given commodity of common use being so high in price as to depreciate the relative purchasing power or exchange value of other commodities, will operate to restrict the demand for all commodities and increase unemployment.

Business will improve in the proportion that the exchange value of commodities and labor are equalized. Meanwhile, the suggestion of reducing the work hours per day on a basis that will provide employment for all is timely and wise. This will be no small undertaking, but can be accomplished if we set about it in the right way. Productive capacity exceeds demand in almost every staple line, including labor; therefore, curtailment is the only solution and, as the man-power or capacity to produce cannot be reduced, the man-work-hour should be reduced or increased from time to time in keeping with the demand.

F. J. MOSS, President.

## IRON, STEEL AND METAL MARKET

### Not Much Change in Steel

Pittsburgh, July 27—[Special.]—Steel demand and production were just about the same last week as week before, steel ingot production being at about 32 per cent of capacity. Mills have been having a hard time contriving to avoid further decrease in production and are not sure they will succeed entirely. In a general way all operating rates under 60 or 65 per cent at the least are uneconomical, unit costs being higher, but some observers have an idea that somewhere around 30 per cent is a sort of dead line, below which operation would be almost impossible.

Conditions in the second half of July have been somewhat disappointing as in other years there has generally been a little sign of the beginning of seasonal increase, now entirely lacking. The common prediction is that August will be as dull as July, with a marked improvement showing itself before the middle of September. There is even expected more than usual seasonal improvement, when expressed in percentage of gain over the July pace, but the awkward feature about that is that such improvement even if quite marked would not last long enough to pull up the second half total a great deal since there is usually a tapering off again in the closing weeks of the year.

The point should be reiterated, however, that a 32 per cent steel producing rate is not as bad as it looks. It is figured against present capacity and the same tonnage would represent 42 per cent of the capacity of ten years ago. The industry rarely runs at over 85 or 90 per cent of capacity, and even 1929, the record year by 9 per cent, showed a steel production equal to only 82 per cent of present capacity.

Thus the apparently light steel production should by no means be attributed to the steel consumers, who with few exceptions are showing some activity. Steel demand is really quite widespread, there being numerous orders, merely small individually. Freight car building is the only conspicuously inactive line. Even the farm implement industry, although altogether out of season just now, is doing something, making no small quantity of repair and replacement parts, and some new implements. In the other direction, there is a very good sized volume of line pipe being laid, for oil and natural gas, though the mills have little backlog of orders and unless there is further buy-

ing there will not be much line pipe laid in the remainder of the season. Fabricated structural steel erection is not doing well compared with last year or year before, but is doing fairly well relative to steel in general. Tin plate of course is at the head of the list, as it is relatively little affected by depression. It was off last year about 10 per cent from its record high and may be off this year about as much more, partly on account of a big decrease in exports.

July automobile production is guessed at not over 200,000, which would be over 20 per cent under June, while August is forecast at around 175,000. In other years August has generally run a little above July, on account of new models, but of late the large makers have been Ford and Chevrolet, which do not have that sales argument this year.

Makers of bars, shapes and plates are trying to firm the whole market up to 1.60c, Pittsburgh, which has been the contract price with small and medium sized buyers since the first of the year, the asking price on odd lots for new buyers being 1.65c. The effort is said to be to eliminate concessions to the largest buyers but possibly the real point is to reduce the concession to the old time size.

Sheet mills have succeeded thus far in maintaining their advanced prices of July 1, but the full test has not come since buyers were allowed to cover for deliveries throughout this month if they acted before July 1. The ordinary asking price on nails is up from \$1.80 to \$1.90 but there has been little test thus far.

The scrap markets are all stronger, outcome being light while very low prices have encouraged a little stocking.

### General Statistical Situation in the Metals Indicates Improvement

New York, July 27—[Special.]—The metals markets have been firm and steady on the whole. Zinc is holding to its gains of June which represented an increase in value by 22 per cent. Lead is absolutely unchanged in price. Copper fluctuates within a narrow range or between 7½c and 8 cents, with the latter the more prevalent figure. Silver has been inclined toward weakness, selling at 27½c per ounce on Thursday. The price of tin averages 25c per pound. Antimony is the same at 6¾c, duty paid.

Sentiment among the metals has been influenced a great deal by developments of the international conferences on the German situation. Considerable copper purchasing on the part of Germany is said to be due to the tendency of that country to switch wealth from currency into commodities.

With the exception of copper the statistical situation of the metals seems to be improving. The metals in fact seem to be on the long, but hard road to recovery. In copper two prominent producers have announced curtailment of production: The Cerro de Pasco Copper Corporation has decided to close down one furnace in Peru, while the Magma Copper Co., with plants in Arizona, has decided to extend its vacation shutdown until October 1. In both cases the product of these companies is sold by custom smelters, which class of sellers is usually the first to depress prices in anxiety to sell. The curtailment of these properties may therefore relieve some of the selling pressure from the market.

Representatives from Arizona are making a campaign in Utah to try to get prominent men and congressmen in that state in favor of a high duty on copper, which now enters the country duty free. To make their proposition more attractive the Arizonians also have come out in favor of stabilizing the price of silver, which should particularly please the mining interests of Utah. Silver is also a product of Arizona.

Arizona has about decided to make its 1932 automobile license plates of copper to advertise the state which produces 40 per cent of the nation's copper and also afford some outlet for the metal. Highway officials of New Jersey are said to be interested in the innovation of copper auto plates, New Jersey doing considerable refining of copper.

Industrial conditions generally show but little improvement. Operations in the steel industry have fallen to 30 per cent of capacity. It is estimated that automobile production in July will have been 200,000 cars and trucks while the production of August will be down to 175,000 units. Construction continues to be the chief form of industrial activity in which metals are largely concerned.

The Metropolitan Square Corporation, New York, with which Rockefeller interests are identified, are letting contracts for the building of "Radio City," which will comprise nine buildings and take 125,000 tons of structural steel. Some of the minor contracts in connection with the undertaking involve the

use of considerable non-ferrous metal.

Authorities in zinc state that sound underlying conditions are being underestimated by consumers and in fact by many producers themselves. They say that zinc prices will be materially higher during the second half of the year. Ore operators of Oklahoma, Missouri and Kansas apparently realize this growing strength of the situation and remain reluctant to sell ore at present prices.

During the early part of the week the price of copper was firm at 8 cents per pound. By Wednesday, however, one custom smelter at least would sell at  $7\frac{3}{4}$ c, the lower price coming about because of a falling off in daily export sales, because of less hope in a favorable outcome of the London conference and because of declining shares on the stock exchange. On Monday export sales had been well over 2000 tons but by the middle of the week they were around 800 tons daily.

It is feared that July copper statistics

will show another increase in surplus stocks. Lead statistics revealed the first decline in surplus stocks in June for a year. Though the drop was less than 3000 tons the trend was in the correct direction. Zinc surplus stocks had fallen over 4000 tons last month, so that zinc shares with lead the honor of being the only major metals whose "house has been put in order."

World production of copper in June was less in aggregate for the month, though slightly greater in daily rate, since June had one less working day. The figures revealed that Canada has not been curtailing production, its June output having been close to its record high. African producers, however, cut to the lowest production for several years.

The zinc producers have begun a campaign to extend the uses of their metal, much in the manner that the copper and lead industries have done. It has been suggested that silver producers have a

good potential demand if they emulate producers of other metals in pushing their market.

### Granite Production and Value

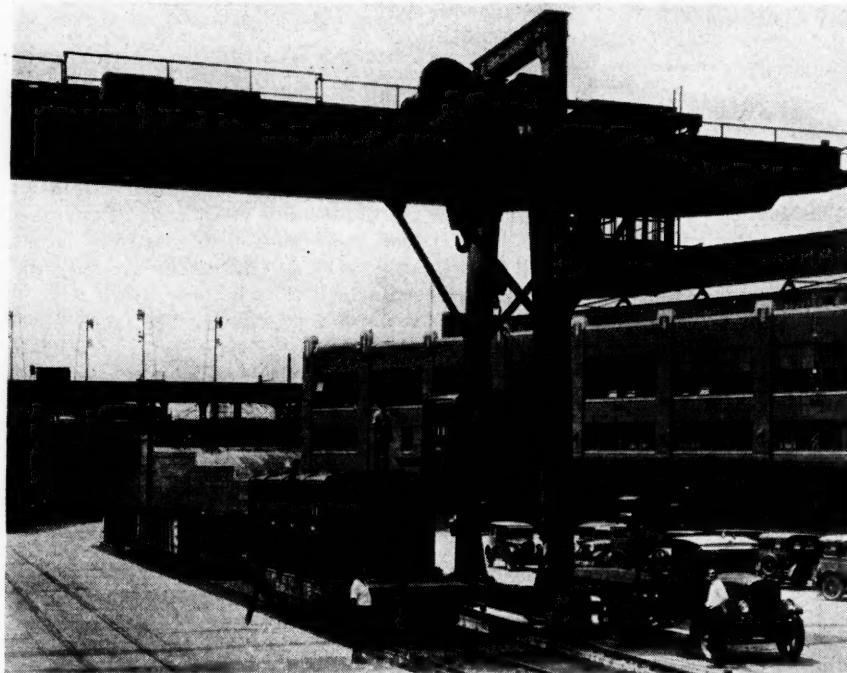
Granite valued at \$30,291,311, for 8,364,000 short tons, was produced in 1929, according to the Census Bureau, by 406 enterprises employing an average of 10,000 wage earners each. The equipment was rated at 108,000 horsepower. Of the total volume and value, 1,332,000 short tons, at \$12,365,221, was produced by concerns in both quarrying and finishing operations. The granite production was 89.2 per cent higher than for 1919, the previous census year, and the value was 66 per cent higher. California, North Carolina and South Carolina led in production in 1929, with about 45.7 per cent of the total tonnage.

### Ethyl Gasoline Laboratory for Baton Rouge

Baton Rouge, La.—As a development and expansion of its national network of testing and research stations, the Ethyl Gasoline Corporation, New York, announces the construction of a new laboratory here, to be in charge of E. O. Anderson, now directing the Ethyl laboratory at New Orleans. With the construction of this laboratory, which is expected to be completed within three months, and the enlargement of the Detroit laboratory, the distribution of anti-knock fuel is expected to be greatly facilitated, especially in the area from Texas to Florida.

### Maintaining Small-Town Business

Some of the secrets of restoring small-town business, where it has shown signs of decadence, were pointed out by Dr. Julius Klein in a recent radio address. A resolute modernization program for the stores, introduction of more rigid efficiency, remodeling or transformation of equipment and arrangements, installing stock-control systems, careful training of sales people, cooperative advertising, chamber-of-commerce activity, creation of keener civic consciousness—these were the factors mentioned. A potent weapon available to the small-town merchant is the trade-developing power of local advertising media. "Certainly, intelligently guided publicity and consistently vigorous local advertising, especially in these days of consumer timidity, represent outstanding means at the command of the smaller-community merchant for arousing greater interest in his goods and attracting customers to his door," the speaker concluded.



**Transferring Steel Containers From Flat Car to Truck**

With the inauguration of revised rates for merchandise shipments in steel containers having a capacity of 10,000 pounds, as recently authorized by the Interstate Commerce Commission, the Pennsylvania Railroad extended this service to all principal points on its lines. The company ordered 3250 containers, at a cost of approximately \$1,500,000, and these are ready for service. They are about 7 by 9 feet, 8 feet high, with a content of 440 cubic feet. Flat cars equipped for the purpose carry five and eight of the containers with a possible capacity load of 25 to 40 tons. The shippers are said to have found the containers of great advantage in loading small lots of merchandise not requiring the use of an entire car, as they may be loaded at the warehouse, trucked to the railroad station and transferred to railroad car by crane and likewise unloaded at destination and trucked bodily to the door of the receiver. One of the containers is here shown being swung from a flat car to a truck.

# AVIATION, AIRPORTS AND AIRWAYS

## Wind Tunnel for Airplane Tests

The world's largest wind tunnel, capable of testing full-sized airplanes at a speed of 115 miles an hour in a jet of air 60 feet wide and 30 feet high, was recently dedicated at Langley Field, Va., by the National Advisory Committee for Aeronautics, of which Dr. Joseph S. Ames, president of Johns Hopkins University, Baltimore, is chairman. Preliminary designs and estimates were prepared some years ago and submitted to the Bureau of the Budget, and Congress on February 20, 1929, provided an appropriation for construction to extend over a period of two years. Contract was awarded February 12, 1930. Smith J. DeFrance, of the technical staff of the committee and in charge of preliminary studies, with his assistants and other members of the technical staff had charge of design and construction of the equipment.

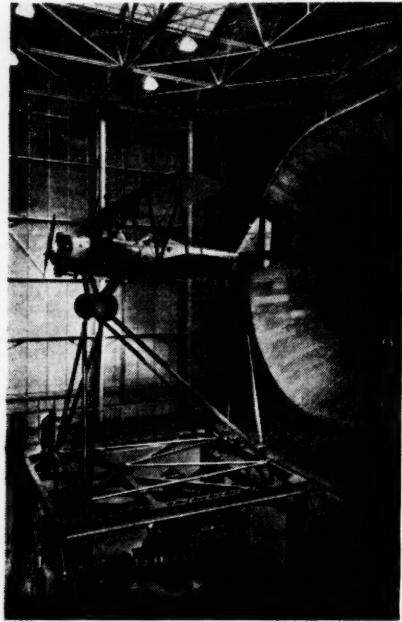
At the dedication, Dr. Ames, who has been a member of the committee since it

cated a seaplane towing channel, 24 feet wide and 12 feet deep, for use in testing models of seaplane boats. A boat under test is suspended below a towing carriage operated by electric motors and supported on large pneumatic tires running on steel rails at a maximum speed of about 60 miles per hour.

## \$61,000,000 in Aircraft Material

Washington, D. C.—According to the aeronautics branch of the Department of Commerce, the value of aircraft equipment produced in 1930, for both military and civil use, was estimated at more than \$61,000,000. A survey by the Department shows that \$34,545,000 went into the construction of heavier-than-air craft, while airships and balloons cost only \$365,000. The cost of aircraft engines and spare parts was estimated at \$23,000,000. Remaining expenditures, amounting to nearly \$4,000,000, were for pontoons, propellers, parachutes, and other equipment.

barracks building, \$42,000 administration building, \$35,000 fire and guardhouse and a \$20,000 dispensary. By the end of the present fiscal year there should be completed or under construction 15 semi-detached dwellings for non-commissioned officers, 12 for company officers, 4 for field officers and one for the commanding officer. Houses for non-commissioned officers are estimated to cost \$162,000 and those for commissioned officers, \$285,000. From the remainder of the \$1,340,000, it is planned to erect a \$38,000 supply warehouse, \$118,000 barracks, \$45,000 quartermaster's warehouse, \$20,000 quartermaster's shops, \$20,000 garage, \$15,000 post exchange, \$5000 railroad spur, \$115,000 landing field grading, \$100,000 landing field improvements and \$5000 incinerator. In the fiscal year of 1932, beginning in July of that year, 8 double hangars will be erected on the field, a theater, gymnasium, swimming pool and quarters for bachelor non-commissioned officers.



Note Figure of Man Standing in Tunnel at Center Right

was established in 1915, stated that "this is the most important moment in the history of the committee, as the placing of this equipment in operation will in my opinion be the most important factor in the committee's activities in the study of those problems which will make for safety and economy in construction and operation of aircraft."

The committee, at the same time, dedi-

## \$1,340,000 Bolling Field Construction

Washington, D. C.—Improvements soon to be started at Bolling Field, headquarters of the United States Air Corps in Washington, will involve an outlay of \$1,340,000 to be expended under the direction of Capt. J. L. Albertson, Constructing Quartermaster at the field. Construction is expected to start before the end of the summer on a \$250,000

## Chicago-Washington Air Service

Washington, D. C.—Continental Airways, Chicago, A. N. Anderson, president, has inaugurated a new high speed service from Chicago to Washington, via Canton and Pittsburgh. Fast schedules make possible the delivery of passengers from Chicago to this city in 3 hours and 25 minutes, covering an air route of approximately 600 miles. Lockheed 7-place Orions with retractable landing gear and capable of top speeds of more than 215 miles per hour will be used.



Photo by Casteel Studio, Texarkana, Ark.-Tex.

## Plane in Texarkana Air Service

This Ford tri-motor plane inaugurated air mail and passenger service in Texarkana. Ports of call on the new route are: Cincinnati, Louisville, Nashville, Memphis, Little Rock, Texarkana, Dallas and Fort Worth.

# HIGHWAYS AND MOTOR TRANSPORT

## Missouri Regulates Length and Width of Trucks and Trailers

A new act, prescribing the maximum size, width and length of motor vehicles, goes into effect in Missouri September 15, 1931. It provides that no motor vehicle shall be operated on state highways the width of which vehicle, including load, is over 96 inches, or the height, including load, over 12½ feet, or the length, including load, more than 33 feet; and no combination of such vehicles coupled together of a total or combined length, including couplings, in excess of 40 feet shall be operated on state highways, and that no more than two vehicles shall be operated in combination. These restrictions as to length will not apply to vehicles temporarily transporting agricultural implements or road building machinery, or road materials, or towing for repair purposes cars that have become disabled on the highway. However, the law permits the State Highway Commission to issue special permits for the temporary operation of a vehicle or combination of vehicles which, including load is greater than the lengths specified, for transporting property, the nature of which will not permit such limitation of length, but such a permit shall be issued only for a single trip or for a definite period of not more than 60 days. This permit must designate the highways and bridges which may be used under its authority. The provisions of the act will not affect the dimensions of combinations of motor vehicles now in use for a period of 12 months from the effective date of the act.

## \$2,750,000 Road Contracts

Atlanta, Ga.—Contracts have been awarded by the State Highway Board for the construction of 23 road and 11 bridge projects, at approximately \$2,750,000. The road projects cover 107 miles of paving and 56 miles of grading.

## \$6,000,000 Texas Road Work

Austin, Tex.—Bids will be opened by the State Highway Commission July 30, 31 and August 1 for construction of 46.9 miles of concrete pavement, 44.9 miles of maintenance work and for bridges in five counties. This construction, estimated to cost \$1,280,000, will be additional to the construction of 505

miles of roads and 18 bridges, for which contracts are also expected to be awarded on these dates. The estimated cost of all projects is in excess of \$6,000,000.

## Bids on \$3,000,000 Bridges

Baton Rouge, La.—Bids will be opened by the Louisiana Highway Commission August 25 for the construction of four bridges and two overpasses estimated to cost \$3,080,000.

## \$1,500,000 Road Bonds Sold

Clayton, Mo.—The St. Louis County Court has sold an issue of \$1,500,000 road bonds, bearing an interest rate of 4 per cent, to a syndicate composed of the Continental Illinois Company, Harris Trust and Savings Bank and the First Union Trust and Savings Bank, all of Chicago; the First National Company of St. Louis, the Mississippi Valley Company and the Boatmen's National Company, all of St. Louis. The purchase price was \$1,492,950.

## Army Builds Super Trucks

The Holabird Quartermaster Depot, Baltimore, has completed five 10-ton super cargo carriers, exhaustive tests of which are now being made. The trucks have a gross weight of 40,000 pounds, and a vehicle weight of 20,000 pounds, and are capable of a speed exceeding 45 miles an hour. The engines are 6-cylinder, 5¼ by 6 inches, rated at 170 horsepower at 2200 r. p. m. The main transmission has four speeds forward, the low reduction being 5.2 to 1; the auxiliary transmission has three speeds, with a low reduction 2.8 to 1. A 16-inch emergency disc brake operates on the auxiliary transmission. Air service brakes, 20 by 4½ inches, operate on four rear wheels. The trucks are equipped with steel disc wheels fitted with 44 by 10-

inch high pressure tires, with dual tires on four rear wheels. On subsequent models 11.25-inch balloon tires will be used.

In recent tests these vehicles have readily negotiated a 65 per cent grade with a gross weight exceeding 42,000 pounds, and have negotiated two-thirds of the same grade towing a 7½-ton load in addition. The test truck would have completed the entire grade with the trailer had not the trailer attaching bar had a tendency to pull the vehicle front wheels three feet off the road bed. It is planned to develop a draw-bar construction that will reduce this tendency to a minimum. The same truck traversed soft, sandy terrain, transporting and towing a total gross load of 85,000 pounds.

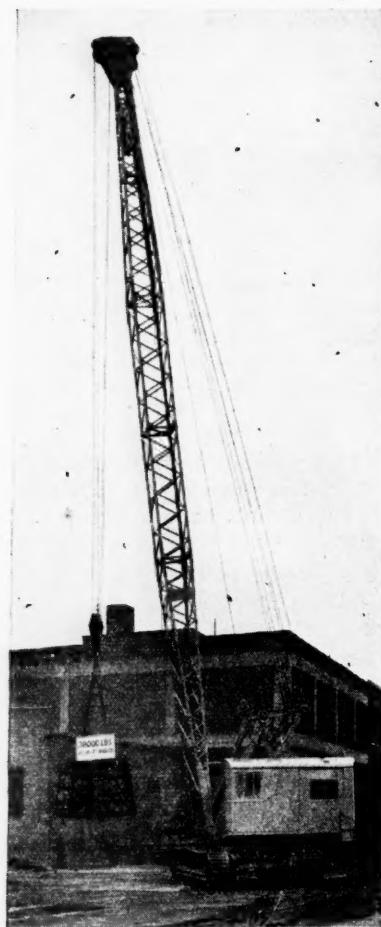


10-Ton Cargo Carrier, With a Speed Capacity of 45 Miles an Hour

## NEW AND IMPROVED EQUIPMENT

### Hammer-Head Boom

A hammer-head boom for steel erection purposes has been developed by the Northwest Engineering Company, Chicago, manufacturers of gasoline, electric



For the Erection of Steel

and oil powered shovels, cranes and draglines. While this type of boom has been used on locomotive cranes in the past, it is the belief of the company that this is the first time it has been applied to a crawler. The boom is provided with sheaves for a five-part line and is designed to keep the load away from the boom structure.

### Truclift With 4-Wheel Steer

The Clark Tructractor Company, Battle Creek, Mich., has introduced a new line of Clark Truclifts, a lifting type power truck with four-wheel steer and rear-wheel drive, on which steering wheels may be turned to a sharp angle,

enabling the operator to enter a freight car and spot his load. Important features include a locomotive type cast steel frame, full floating rear axle of excess capacity, powerful hydraulic lifting mechanism with automatic control and tractor type gas engine with engine speed governed to less than 1400 r. p. m. Acceleration under load is a distinctive feature. Made in two models, the smaller type has a narrow platform to accommodate U. S. standard 12-inch under-clearance skid platforms and lifts a 3-ton load in 9 seconds. It is especially designed for loading box cars. The heavier model lifts 4 tons in 8 seconds and has a speed from 1 to 6 miles per



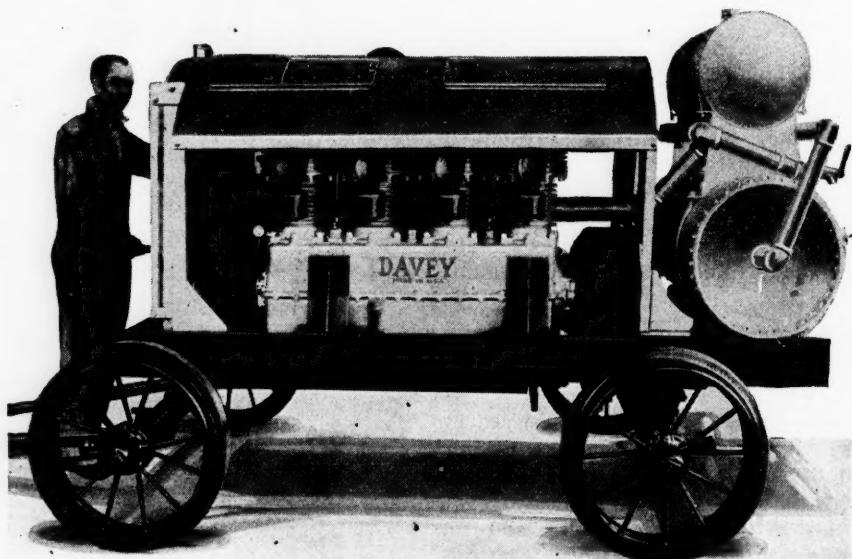
Turns Sharp Corners With Heavy Loads

hour. Both models have a turning radius of 94 inches and are fitted with wide tires.

### Four-Cylinder Air Compressor

The Davey Compressor Company, Kent, Ohio, has developed the Davey "Air-Cooled" portable compressor, a four-cylinder, 320-cubic foot unit, with an outstanding advantage in its light weight, 4800 pounds, or about as much as the average 160-cubic foot portable compressor, it is said. Mounted on a rubber-tired trailer, it is readily moved over rough country. The unit weighs 4400 pounds on skids for truck mountings, a safe load for a 2-ton truck, which means a saving in original cost of truck and compressor, as well as in operation and maintenance. Elimination of water-cooled parts is said to have made possible better engineering design and more simplified construction, while distribu-

tion of the load over four cylinders effects smoother operation with less wear on compressor and engine. Balanced and counterweighted, the crank-shaft runs in five large bronze-backed bearings, while full pressure lubrication, with air cleaners and oil filter, insures clean oil to working parts. The V-belt drive permits use of a clutch between engine and compressor, making it possible to crank the engine without turning over the compressor. With the engine running, the compressor is started by a pull on the clutch lever. In addition to the mountings mentioned, the unit may be supplied on steel treads. A special mounting is also available for the "Caterpillar" Sixty tractor in which the compressor unit is driven through V-belts and clutch by the tractor motor.



Davey Compressor Unit of Light Weight

# CONSTRUCTION DEPARTMENT

and

## NEW ENTERPRISES

Covering  
the initial  
announcements  
of new undertakings with  
additional information about  
enterprises previously mentioned. The date  
at the end of an item indicates preliminary facts were  
given in a previous issue.

**Building and Construction Proposed and Contracts  
Awarded; Manufacturing, Mining, Power, and Land  
Developments; Public Works; Transportation; Communi-  
cation; Financial Enterprises; New Business  
Opportunities Reported in the Sixteen Southern States.**

When writing  
to a new firm  
or corporation  
the name of at  
least one of the  
incorporators  
should be  
placed on the  
envelope to ex-  
pedite its han-  
dling by the  
local postoffice.  
Mail may be  
delayed unless  
complete ad-  
dress is given.

The Daily Construction Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

### Airports, Airplane Plants, Etc.

Ala., Birmingham—Alabama National Guard, 106th Observation Squadron Air Corps, plans hangar and administration building; \$142,000 available over 3-year period.

Ala., Maxwell Field, Montgomery—Constructing Quartermaster receives bids Aug. 11 for boiler plants, outside distribution system, steam conduit drains; following estimators: Batson-Cook Co., West Point, Ga.; Harrison-Wright Co., 4 W. Third St., Charlotte, N. C.; Kewanee Boiler Corp., Kewanee, Ill.; Samford Brothers, Inc., 301 Washington Ave., Montgomery, Ala.; Mason & Dulion, 3024 Third Ave., S., Birmingham, Ala.; Crane Co., 1225 I St., Washington, D. C.; C. M. Guest & Son, Sharpe St., Anderson, S. C.; W. W. Dick Co., 246 Bellemeade St., Greensboro, N. C.; Newport Contracting & Engineering Co., Lee Hall, Va.; L. J. Lohotay, Opelika, Ala.; Grinnell Co., 240 N. Highland Ave., N. E., Atlanta, Ga.; Piedmont Steam & Hot Water Heating Co., Gastonia, N. C.; Frank Cole, 410 Bond Bldg., Washington, D. C.; Big-Standard Construction Co., Inc., Frostburg, Md.; Keystone Heating & Equipment Corp., Shoreham Bldg., Washington, D. C.; Virginia Engineering Co., Inc., First National Bank Bldg., Newport News, Va.; Crescent Plumbing & Heating Co., 821 Jefferson St., Louisville, Ky.; McBurney Stoker & Equipment Co., 619 Trust Bldg., Atlanta, Ga.; Continental Contracting Co., Inc., 309 Second Ave., S., Fort Dodge, Iowa; Louis Gortner, Jr., 8233 Harper Ave., Chicago, Ill.

Ala., Montgomery—Drainage, Sewers and Waterworks—See Roads, Streets and Paving.

Fla., Jacksonville—City erect municipal hangar; W. E. Shedd, City Engr.

Fla., Miami—Navy Dept., Bureau of Yards and Docks, has offer of one sq. mi. of land as site for auxiliary airship operating base.

La., Barksdale Field, Shreveport—Constructing Quartermaster, Capt. George E. Lamb, opens bids Aug. 7 for electrical distribution system, \$60,000; following estimators: Ace Combustion Engineering Co., Inc., 222½ Milam St.; Electric Shop, 216 Texas St.; Jack Moorman, 207 Crockett St.; Cahn Electric Co., 708 Milam St.; Southwestern Gas and Electric Co., Marshall St.; K. C. Wilson, Slattery Bldg., all Shreveport; Tobin Plastering Co., San Antonio; Kemper Harms, Inc., Gladewater, Tex.; Electrical Supply Co., 201 Magazine St., New Orleans; American Engineering and Construction Co., Bastrop, La.; Keller Electric Co., Dubuque, Iowa; Collier Construction Co., 6740 Murray St., Cincinnati; R. H. Bouligny, Inc., 509 W. Morehead St.; Harrison-Wright Co., 4 W. Third St., both Charlotte, N. C.; Robert E. McKee Construction Co., 1918 Texas St., El Paso, Tex.; Walker Electrical Co., Bona Allen Bldg., Atlanta, Ga.; General Cable Corp., Dallas, Tex.; Strong Electric Co., Philadelphia, Pa.; W. H. O'Toole Construction Co., 103 Grayline Lane, Monroe, La.; work includes stucco substation, 2300-volt, 3-phase, 3-wire, 60-cycle underground distribution system and stucco main entrance structures; power furnished by Southwestern Gas & Electric Co.

Ga., Brunswick—City proposes election on \$150,000 bonds for airport.

N. C., Durham—Chamber of Commerce promoting airport project and is receiving blue prints and estimates on hangars to accommodate from five to ten planes; also interested in receiving proposals for management and operation.

Okla., Tulsa—United Brick & Tile Co., 304 N. Nogales St., has contract for brick for \$75,000 administration building, municipal airport; Consolidated Cut Stone Co., 1323 E. Fifth St., stone; Kansas City Structural Steel Co., Cosden Bldg., steel; G. J. Bowie, Gen. Contr., Daniels Bldg., all Tulsa.

Tex., Beaumont—City, F. L. Bertschler, Park Supt., soon have plans ready for bids for municipal airport runways and road from Old Spanish Trail; \$55,000 available for this work and buildings.

Tex., Dallas—A. Epstein, Engr., 2001 W. Pershing Rd., Chicago, preparing plans for \$100,000 passenger station and administration hangar at Love Field for United Air Lines; probably call bids within 10 days.

Tex., Duncan Field—Constructing Quartermaster, Fort Sam Houston, open bids Aug. 24 for engineering shop connecting bays, dope house, dope storage, boiler house and utilities; one story, 458x572 ft. overall dimen., brick, struc. clay tile, struc. steel, cast stone, rein. conc., metal lath and plaster, steel windows, sliding doors, mesh partitions, metal partitions, metal louvres; steel counters; steel truss, conc., built-up steel deck and asbestos protected metal roof; \$440,000.

Tex., Houston—Houston Airport, Haywood Neims, Mgr., soon start constructing runways; \$21,000.

Tex., Plainview—Bd. of City Development, Highway Committee, plans establishing airport.

Tex., Randolph Field—Constructing Quartermaster opens bids Aug. 19 for gasoline fueling system.

Tex., Texarkana—City votes Aug. 19 on \$20,000 airport improvement bonds.

Va., Charlottesville—Dixie Flying Service, Edward M. Sturhahn, Pres., has construction 10 per cent completed on \$10,000 all-steel hangar, 80x75x14 ft., door clearance 80x14 ft.; 60x20-ft. lean-to containing shop; brick and conc. floors, corrugated metal roof; Roanoke Iron and Bridge Works, Roanoke, Contr.; purchase three new airplanes; Curtiss-Wright Airplanes Co., Robertson, Mo., and Stinson Aircraft Corp., Wayne, Mich., Contrs.

Va., Langley Field, Hampton—National Advisory Committee for Aeronautics let contract to Southeastern Construction Co., 210 W. Second St., Charlotte, N. C., for hangar extension to full-scale wind tunnel; \$9944.

Va., Norfolk—City Council abandoned plans to develop municipal airport.

Va., Virginia Beach—Aircraft Corporation, 3400 Union Trust Bldg., Detroit and Chicago, reported, has option on 150-acre site; propose constructing runways and hangars; establish air station for plane distribution in Virginia and North Carolina.

### Bridges, Culverts and Viaducts

#### Proposed Construction

D. C., Washington—Dist. Comms., 427 District Bldg., open bids Aug. 25 for subway

and approaches thereto under tracks and right of way of Baltimore & Ohio R. R. Co., in line of Piney Branch Road, proposed, N. W.

Ky., Louisville—Pennsylvania R. R., H. G. Newcomer, V. Pres., Philadelphia, Pa., reported, signed contract with city to construct \$3,000,000 elevated railroad through 14th St. to eliminate grade crossings. See Railways.

Ky., Parish—State Highway Comsn., H. D. Palmore, Engr., Frankfort, ordered survey in connection with new bridge.

La., New Orleans—New Orleans Public Belt R. R., Frank H. Joubert, Sec.-Treas. Gen. Mgr., Municipal Bldg., opens bids Sept. 15 for \$19,000,000 combined railroad and highway bridge; State Highway Comsn., O. K. Allen, Chmn., Baton Rouge, to contribute \$7,000,000; to be let under 4 contracts: Cont. 3, substructure main bridge, 305 lin. ft. borings, 133,700 cu. yd. caisson foundations, 45,000 cu. yd. conc. footings, pedestals and shafts, 2200 cu. yd. granite facing, 14,900 cu. yd. excavation other than caisson, 1150 cu. yd. gravel fill, 124,500 lin. ft. timber piles, 1,000,000 lb. rein. steel, 537,500 sq. ft. mattress protection; Cont. 4, superstructure main bridge, 39,400,000 lb. struc. metalwork, 2,500,000 lb. heat-treated eyebars, 500 m. b. m. railway deck timbers treated, 3270 cu. yd. conc. roadway slabs, rein. steel, 225,000 lb., 183,000 lin. ft. roadway steel reinforcing; Cont. 5, substructure approaches, 32,400 cu. yd. excavation for footings, 24,700 cu. yd. conc. in pedestals, footings and abutments, 1,130,000 lb. rein. steel, 1,082,200 lin. ft. 60-ft. timber piles, 25,000 cu. yd. highway embankments, 8000 sq. yd. bitum. roadway surface, 750 lin. ft. 24-in. rein. conc. pipe; 50 lin. ft. 24-in. rein. conc. pipe, 5000 steel driving shoes for piles; Cont. 6, superstructure approaches, 78,000,000 lb. struc. metalwork, 3500 m. b. m. treated railway deck timbers, 4860 cu. yd. conc. roadway slabs, 336,000 lb. rein. steel, 275,000 lin. ft. roadway steel reinforcing trusses.

La., New Iberia—Iberia Parish Police Jury, M. DeBlanc, Sec., opens bids Aug. 19 for new pile foundation, and approach, and replacing bottom steel chord, and patching diagonal members of Bayside bridge over Bayou Teche, 8th Ward.

La., New Orleans—City Pur. Agt., Room 24, City Hall, opens bids Aug. 4 for superstructure of bridge over Florida Ave. Canal, axis of lower side roadway of Franklin Ave.; 30 ft. long, 24 ft. roadway, 15-ft. sidewalk, rein. conc. slabs supported on steel I-beams.

La., Rayville—Richland Parish Police Jury, J. C. Salmon, Sec., opens bids Aug. 4 for razing, removing and rebuilding old Boeuf River bridge near Girard; conc. piers on which bridge now stands to be taken down to bed of river and removed; to be moved 20 mi. and erected as it now stands.

Maryland—See Roads, Streets and Paving.

MARYLAND—State Roads Comsn., L. H. Steuart, Sec., Baltimore, opens bids Aug. 4 for 3 bridge projects in following counties:

Carroll—single 8-ft. span conc. slab bridge adjacent to existing bridge, Littlestown Pike, 0.5 mi. north of Union Mills over branch of Big Pipe Creek, C1-90-511;

Montgomery—extensions and alterations to 3 bridges on Rockville Pike between Bethesda and Rockville, 0.7, 1.4 and 1.8 mi. north of Bethesda, M-170-311;

**Wicomico**—alterations and timber floor on existing bridge over Nanticoke River, Sharptown, Md., 61-17.

Md., Baltimore—Following estimating on contract for bridge, Loney's Lane, over Pennsylvania R. R., bids due Aug. 5, Bd. of Awards, Office of City Register. T. D. Clai-borne Co., Garrett Bldg.; Catalano & Pecora Construction Co., Eldorado Ave.; F. Carrozza & Son, 2444 N. Charles St.; W. E. Bickerton Co., 515 Cathedral St.; Whiting-Turner Construction Co., Stewart Bldg.; Merritt, Chapman & Scott, Fidelity Bldg.; W. C. Bridgell Co., 100 N. Entw St.; Consolidated Engineering Co., 20 E. Franklin St.; Empire Construction Co., 31 S. Calvert St.; Frank Marine, 2 E. Lexington St.; P. C. Streett Engineering Co., 404 St. Paul St.; Peter D'Adamo Construction Co., Old Town National Bank Bldg.; Sanford & Brooks Co., Canton House; Jas. F. McCabe Co., Equitable Bldg.; Forbes-Murphy Construction Co., 326 St. Paul Pl.; Marocco Construction Co., 231 S. Exeter St.; Mullan Contracting Co., 3945 Greenmount Ave.; American Bridge Co., Continental Bldg.; McClintic-Marshall Co., Baltimore Trust Bldg., all Baltimore; Cement Gun Co., Allentown, Pa.; Monroe & Westcott, 24 Elm St., North Attleboro, Mass.; Rust Engineering Co., Koppers Bldg.; John H. Casey, P. O. Box 1753, both Pittsburgh, Pa.; Phoenix Bridge Co., Phoenixville, Pa.; Sinclair & Grigg, 1518 Walnut St.; Brann & Stuart Co., 1219 Broad St. Sta. Bldg., both Philadelphia, Pa.; Whittaker & Diehl Co., Union Trust Bldg., Harrisburg, Pa.; Walsh Construction Co., Herald Bldg., Syracuse, N. Y.; Dravo Contracting Co., Koppers Bldg., Pittsburgh. 7-23

Md., Baltimore—City, Bureau of Highways, H. L. Lucke, Bridge Engr., Municipal Bldg., opens bids Aug. 12 for 2 bridges under one contract, Warwick Ave., and at Garrison Lane, in connection with Pennsylvania R. R. electrification. 7-16

Miss., Walhall—Webster County Suprs., J. A. Hightower, Clk., opens bids Aug. 7 for timber bridge over Lindsey Creek, Embry and Alva road.

Mo., Independence—See Roads, Streets and Paving.

Mo., St. Louis—City, Bd. of Public Service, City Hall, opens bids Aug. 18 for erecting and painting struc. steel for East St. Union Station approach to St. Louis Municipal bridge. 7-19

Okla., Norman—State Highway Coms., A. R. Losh, Highway Engr., Oklahoma City, has preliminary plans for 7-span, 118-ft. rein. conc. bridge, Cleveland County, near here.

Tenn., Knoxville—City, George R. Dempster, City Mgr., build 3 viaducts from \$300,000 to be left over from Henley St. bridge, Church Ave., W. Fifth Ave. and Oak St.; funds to be available before Jan. 1.

Texas—State Highway Coms. receives bids for 3 bridge projects. See Roads, Streets and Paving.

Tex., Channing—Hartley County, care Engineering Dept., plans \$100,000, 600-ft. rein. conc. bridge over Punta De Agua Creek, Romero-Channing road.

Tex., Houston—See Roads, Streets and Paving.

**VIRGINIA**—State Dept. of Highways, C. S. Mullens, Ch. Engr., Richmond, opens bids Aug. 11 for 3 bridges in following counties: **Amherst**—127-ft. bridge over Piney River, Route 313, near Lowesville; **Appomattox**—32-ft. bridge over Brick Kiln Branch, Route 13, 6 mi. from Caskie; **Buckingham**—112-ft. bridge over Stevens Run, Buckingham County, Route 13, 4.5 mi. from Caskie.

#### Contracts Awarded

Ala., Birmingham—Southern Ry., B. Her-man, Ch. Engr., Washington, D. C., let contract to Virginia Bridge & Iron Co., Roanoke, Va., for 80 tons steel for rebuilding bridge, Valley Creek.

Ala., Birmingham—Virginia Bridge & Iron Co., Roanoke, Va., has contract for 100 tons struc. steel for bridge of Birmingham South-ern R. R. Co., A. Benners, Pres.

Ga., Atlanta—Fulton County Comms., C. M. Holland, County Pur. Agt., let contract to Griffin Construction Co., 452 Spring St., N. W., at \$44,231, for Broad St. viaduct; plans by C. E. Kauffman, City Engr. 7-9

Ga., Floyd—Seaboard Air Line Ry. Co., W. D. Fauchette, Ch. Engr., Norfolk, Va., let contract to Ingalls Iron Works Co., and Tennessee, Coal, Iron & Railroad Co., both Birmingham, Ala.; for 250-ton steel viaduct.

Okla., Tulsa—Missouri-Kansas-Texas R. R. Co., F. Ringer, Ch. Engr., St. Louis, Mo., and Earl Logan, City Aud., let contract to

H. L. Cannady Co., 1116 S. Lewis St., at \$17,000, for underpass; 2 rein. conc. deck girder spans, 17 ft. high, 66 ft. wide, 76 ft. long.

Tenn., Danville—Dravo Construction Co., Neville Island, Pittsburgh, Pa., has contract for foundations and piers for 6-span, 1470-ft., conc. steel lift bridge over Tennessee River, for Louisville & Nashville R. R. Co., W. H. Courtenay, Ch. Engr., Louisville, Ky. 7-2

Tex., Houston—McClenden & Green, First Natl. Bank Bldg., have contract for bridges over Sims Bayou, Spring Branch and Spring Branch gulley, Ferndale road; to be 30 ft. wide and decked with conc.; 255, 100 and 55 ft. long.

#### Canning and Packing Plants

Fla., Bradenton—Florida Grapefruit Canning Co. erect warehouse and add third cooking line; increase capacity 25 per cent; \$10,000; warehouse, 100x40 ft., 1 story, corrugated iron exterior, metal roof and conc. floor; company builds; sand and cement contract to Quantite Tile Co.; lumber and metal to Dunan Lumber Co.; C. E. Street, Mgr.

Tex., Laredo—August Richter erect \$10,000 citrus packing plant; Horace E. Watson, Mgr.

Va., Charlottesville—Albemarle Fruit Packers, Inc., capital \$20,000, chartered; W. S. Hildreth, Pres.

#### Coal Mines and Coke Ovens

Va., Richlands—Raven Red Ash Coal Co., Inc., increased capital, \$70,000 to \$200,000; File, Goldsmith and Scherer, Attnys., Beckley, W. Va.

West Virginia—Pond Creek Pocahontas Coal Co., let contract to Walton-Sudduth Co., Bluefield, for construction of coal operation on Dry Fork branch of Norfolk and Western R. R. at south of Slate creek; \$200,000; includes sinking shaft and slope and construction of railroad siding.

#### Concrete and Cement Plants

Md., Baltimore—Arundel-Brooks Concrete Corp., incorporated; Joseph J. Hock, Pier 2, Pratt St.; let contract to Sanford & Brooks, South and Water Sts., for central mixing plant and concrete storage bins, 921 S. Wolfe St. 7-16

#### Cotton Compresses and Gins

Ala., Huntsville—Planters Warehouse Co. started work on addition 75x100 ft., for cotton storage; fireproof; sprinklered.

Fla., Jennings—Jennings Ginning Co. chartered; L. Howell, P. G. Wilkerson.

Ga., Savannah—H. G. Bruncke & Co., Inc., capital \$125,000; H. G. Bruncke, Fred Cockrell.

La., Monroe—Federal Compress and Warehouse Co., Sixth and Beard Sts., making \$45,000 improvements; installing sprinkler system, erecting 100,000-gal. tank; increase storage capacity to 20,000 bales and have compressing capacity of 1000 bales daily.

Miss., Marks—Quitman County Compress and Warehouse, D. E. Williams, make improvements.

Miss., Waynesboro—J. B. Dickerson erecting gin.

Tex., Flagg—Flagg Gin Co., capital \$10,000, incorporated; H. W. Allen, Claude Gage.

Tex., Wheeler—Farmers Gin, capital \$14,000, incorporated; W. F. Wright, S. L. Farris.

#### Drainage, Dredging and Irrigation

Louisiana—See Texas.

La., Baton Rouge—East Baton Rouge Parish Police Jury, Courthouse Bldg., opens bids Aug. 18 for following: Drainage canal from  $\frac{1}{2}$  mi. north of Gourrier Lane, to its intersection with Bayou Fountain, Eighth Ward, approx. 14,500 cu. yd. excavation, 10.6 acres clearing; drainage canal from Baton Rouge-Hammond Highway near Millerville southeasterly to Hunnicut Creek, 7th Ward, approx. 21,000 cu. yd. excavation, 10.6 acres clearing; drainage canal, east branch Ward's Creek, from Plank road, near Ousso's Store, southeasterly to extension of North Blvd., approx. 36,500 cu. yd. excavation, 14.8 acres clearing; J. J. Mundinger, Parish Engr.

North Carolina—U. S. Engr. Office, R. A. Wheeler, Major, Corps of Engrs., Dist. Engr., Wilmington, advises rock was discovered in dredging Sec. II of Intracoastal Waterway, Beaufort to Cape Fear River, between Swansboro and New River; Project for waterway is 12 ft. at MLW; rock was discovered at depths varying from 7 to 12 ft. at MLW and was found in area about 1 mi. long, which is located about 12 mi. west of Swansboro;

est. approx. 80,000 cu. yd. rock to be removed to secure project depth; survey now in progress with view of preparing specifications and advertising work; probably have plans ready for issue within 60 days.

Tex., Bronte—Colorado River Irrigation Coms., making surveys for irrigating 75,000 acres, \$650,000; Municipal Engineering Co., Engr., Athletic Bldg., Dallas.

Tex., Houston—U. S. Engr. Office, Galveston, has low bids for 7,740,300 cu. yd. dredging, Houston Ship Channel: Items 1 and 2, Stromberg Dredging Co., St. Louis, 9 cents per cu. yd.; Sec. 1, Standard Dredging Co., 323 Guaranty Bldg., Galveston, and 233 Broadway, New York, at 5.96 cents; Sec. 2, Atlantic, Gulf & Pacific Co., 15 Park Row, New York, 23.47 cents. 6-23

Texas—U. S. Engr. Office, Galveston, opens bids Aug. 24 for dredging entrance channel, Sabine Lake into Johnsons Bayou, La., consisting of removal of about 57,000 cu. yd. over channel length of approx. 2300 ft.

Va., Norfolk—U. S. Engr. Office, foot of Front St., has low bid from Atkinson Dredging Co., 507 Florida Theatre Bldg., Jacksonville, Fla., at \$0.117, for dredging approx. 107,369 cu. yd. material, plus approx. 20,782 cu. yd. overdepth, 128,151 cu. yd. place measurement, Scotts Creek, Norfolk Harbor. 7-2

#### Electric Light and Power

**Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.**

Ark., Hot Springs—Arkansas Power & Light Co., Little Rock, reported, contemplating preliminary plans for hydro-electric plant on Ouachita River above Carpenter Dam.

Ark., Little Rock—Arkansas Power and Light Co. offering \$2,000,000 first and refunding mortage bonds through Chase-Harris-Forbes Corp., New York, and associates.

D. C., Washington—David Lynn, Architect of the Capitol, opens bids Aug. 20 for street and park lighting system as part of enlargement of Capitol grounds.

D. C., Washington—Potomac Electric Power Co., Tenth and E Sts., N. W., advises through J. H. Ferry, Electrical Engr., regarding proposed \$5,000,000 auxiliary power plant, that property has been purchased to provide for erection of a new station, when such a station is found necessary; at present will have no plans and unable to state when it will be necessary to commence work. 7-23

Ga., Waycross—City, L. V. Bean, Mgr., indefinitely postponed preparation of plans and receiving bids for white way system.

Ky., Louisville—Louisville Gas and Electric Co. plans \$500,000 improvements; include substation, Young St., north of Payne, and one west of Seventh St. Rd., between 11th and 12th Sts.; high tension line to connect Seventh St. Rd. substation with Ohio Falls hydro-electric plant; make addition to Highland substation, Stevens Ave., south of Bardstown Rd.

La., New Iberia—City let contract at \$18,499 to N. E. Busby & Co., 4004 Main St., Dallas, Tex., for white way; Henry A. Mentz & Co., Hammond, Consit. Engrs.

La., Shreveport—Regarding construction of 18,750-kw. addition to Arsenal Hill power station of Southwestern Gas & Electric Co., Sargent & Lundy, Inc., Engrs., 20 N. Wacker Drive, Chicago, advise that work on this station indefinitely postponed. 7-9

Oklahoma—Grand Hydro-Electric Co., Wash E. Hudson, Pres., Sixth and Peoria Sts., Tulsa, to have hearing before State Conservation Committee on construction of dam in Delaware County. 5-7

Okl., Optima—City voted gas and electric franchises to Cimarron Utilities Co., Boyer, Texas.

Okl., Pawhuska—City voted authorization of \$46,762 for 750-h. p. engine to enlarge municipal light and power plant.

Okl., Wilburton—City voted Aug. 11 on granting electric franchise to Public Service Co. of Oklahoma, Tulsa.

S. C., Aiken—City, Sarah H. Busch, Clerk, postponed for six months election on bond issue to acquire distribution system. 6-25

Tex., Columbus—Central Power & Light Co., E. B. Neiswanger, Pres., San Antonio, advises through D. E. Woods regarding hydro-electric development on Colorado

River at Columbus that company does not contemplate construction at this location in near future; such development must necessarily await completion of developments now under construction on upper Colorado River.

7-23

### Fertilizer Plants

Va., Fleeton—Renneberg & Sons Co., 2639 Boston St., Baltimore, Md., to purchase menhaden fish, fertilizer and oil plant of Douglas Co., subject to court approval.

### Flour, Feed and Meal Mills

Mo., Webb City—Ball and Gunning Milling Co., W. C. Ball, Mgr., rebuild flour mill burned at \$100,000 loss.

Va., Lewis—Lynwood Milling Corp., capital \$15,000, chartered; T. J. Livsie, Pres., Franklin, Va.

### Foundry and Machine Plants

Mo., Jefferson City—Greenwell & Elliott Machinery Co., incorporated; Roy Elliott; Leon P. Greenwell.

Mo., St. Louis—Bridge & Beach Manufacturing Co., 14204 Union St., incorporated; H. E. Bridge, G. L. Bridge; stove, ranges, heaters.

### Garages and Filling Stations

D. C., Washington—Andrew J. Sauer & Co., Archts., Schaff Bldg., Philadelphia, Pa., let contract to Frank G. Stewart, 1520 Locust St., Philadelphia, for Medical Arts Building project, Connecticut Ave., N St. and 19th St.; includes 171-car garage; building 12 stories, 142.11x254x130 ft., conc. floors and foundation, slag roof, cast stone, elevators, terrazzo and tile flooring, incinerator, limestone, mail chutes, marble, metal doors, steel sash and trim, vacuum steam heat; garage 3 stories, 100x160 ft., conc. floors, slag roof.

D. C., Washington—Lord Baltimore Filling Stations, Inc., T. J. O'Connell, Engr., American Bldg., Baltimore, Md., let contract to Bahen & Wright 916 Rhode Island Ave., N. E., for filling station, Rhode Island Ave. and Eldridge St.; 20x34 ft.; brick and stucco, conc. foundation; \$9,000 without equipment.

D. C., Washington—J. Frank Kelly, 2101 Georgia Ave., erect 1-story, brick, struc. steel garage; A. M. Poynton, Bldr., Chandler Bldg.

Fla., Lakeland—John S. Berry chartered; J. S. Berry, L. O. Garrott.

Ga., Atlanta—Grant Motor Co., W. J. Grant, 830 Peachtree St., N. W., leased Goldsmith-Becker Bldg., Spring St.; furnish and equip for auto sales and service.

Ga., Atlanta—Peters Land Co., Peters Bldg., let contract to Capitol Construction Co., Standard Bldg., for filling station, Hemphill and North Aves.

Ga., Atlanta—T. C. Wesley & Son, Red Rock Bldg., low bidder for roof additions to Ivy St. Garage, 24 Ivy St., for Anderson-Clayton & Co., Commercial Bank Bldg., lessees.

Ga., Savannah—Standard Oil Co., 122 Drayton St., erect service station, store and dwelling, Butler Ave. and 16th St.; construct conc. driveway.

Ky., Ashland—City Council granted permit to M. E. S. Posey to construct filling station, 18th and Carter Ave.

La., Baton Rouge—Standard Motor Car Co., Lewis Gottlieb, Pres., Lafayette St., have plans about ready for addition to Mann-Atkinson Bldg., North St. near Jackson Rd.; 1 story, 90x120 ft., rein. conc. and brick; \$25,000.

Md., Baltimore—Thomas B. Buccheri, 424 Forrest St., erect garage and storage building, 1110-12 Monument St.; 2 stories, brick; Porter T. Bond, Archt., 911 Gorsuch Ave.; George L. Schnader, Contr., 3111 Berkshire Rd.

Md., Baltimore—George L. Schnader, 3111 Berkshire Rd., contractor for garage alterations and additions, 2618 E. Baltimore St., for Joseph Blum; 1 story, brick.

Mo., Christian—H & B Chevrolet Co., incorporated; Clyde Hanks, H. D. Gray, both Ozark.

Mo., St. Louis—Angelica Motor Co., incorporated; Harry E. Blum, 5842 Cabanne St.

Mo., St. Louis—Weinberg Construction Co., 816½ Chestnut St., erect \$150,000 garage, 712-18 Morgan St.; 80x100 ft., brick, rein. conc.

N. C., Asheville—J. E. Joyner, Contr., 538 State St., erecting garage and tire shop, West Asheville, for Mayor Otis Green, proprietor of Ottis Green Hardware Co.; brick and stucco.

N. C., Durham—Durham Tire Co., incorporated; L. W. Baker, Fairlawn, Ohio.

Tenn., Chattanooga—Phillips Auto Co., chartered; Joe Frassrand, Hamilton Natl. Bank Bldg.

Va., Norfolk—Norfolk Motoramp, Inc., capital \$10,000, chartered; Charles McT. Tunstall, Pres., Dickson Bldg.

### Gas and Oil Enterprises

Ky., Bowling Green—Bowling Green Refining Co., John H. Wright, V. P., erect refinery; Devine & Co., Mt. Vernon, Ohio, and Leader Iron Co., Decatur, bidding.

Ky., Carrollton—Natural Gas Development Corp., 506 Main St., Carl Davis, Pres., contemplates installing equipment in connection drilling on 40,000 acres of leases in Gallatin, Carroll, Henry and Trimble counties; construction contract not awarded.

Ky., Weeksburg—Newman Gas Co., capital \$100,000, incorporated; W. J. Newman, J. H. Smith.

La., Lake Charles—Jim Oil Co., Inc., capital \$25,000, chartered; J. G. Sutton, Pres., Vinton; J. A. Trott, Sec.-Treas., Lake Charles.

La., New Orleans—Austin Co., 16112 Euclid Ave., Cleveland, Ohio, reported, has contract for compressor building and auxiliary structures.

La., Ruston—City voted \$180,000 bonds to establish municipal natural gas system.

N. C., Charlotte—Central Oil Co. of North Carolina, subsidiary of Pure Oil Co., Chicago, leased Robert E. Buck property, northeast corner Tryon and Morehead Sts.; later erect 3-story building.

Okla., McAlester—Solo Oil Co., chartered; John Basolo; F. D. McSherry.

Okla., Oklahoma City—City Council ordered election Sept. 22 on granting gas franchise to Oklahoma Natural Gas Corp.; rescinded decision to submit proposal to vote on issuance of \$4,000,000 bonds to establish gas plant.

Okla., Oklahoma City—Peerless Refining and Gasoline Corp., incorporated with \$100,000 capital by E. E. Peveto, O. S. Matson and J. M. Singleton; started construction on 4000-barrel skimming plant, north end of Oklahoma City field.

Okla., Optima—City voted gas and electric franchises to Cimarron Utilities Co., Barger, Texas.

Tex., Abilene—Roy Guffey, Baird, to apply for gas distributing franchise.

Tex., Beeville—Da-Mac Oil Corp., incorporated; George W. McMurray, Charles P. Carter.

Tex., Center—Magnolia Petroleum Co., 1009 Fannin St., Houston, and Magnolia Bldg., Dallas, reported, erect 14 steel tanks.

Tex., Dallas—Burleson County Oil and Gas Co., capital \$25,000, incorporated; A. E. Manning, S. W. Life Bldg.

Tex., Dallas—Blue Ribbon Manufacturing Co. of Texas, incorporated; H. Hodges, 1315 Edgemont St.

Tex., Dallas—Old River Oil Co., capital \$12,000, incorporated; A. H. Richardson, 6006 Mercedes St.

Tex., El Paso—Sinclair Consolidated Oil Corp., reported, negotiating for merger with Rio Grande Oil Co., with offices in this city and Los Angeles, and Tidewater-Associated Oil Co., 17 Battery Place, New York.

Tex., Fort Worth—City voted for municipal ownership of gas distribution system; also ratified contract with Shamrock Natural Gas Co., Amarillo, to supply gas under municipal distribution plant.

Tex., Fort Worth—Haskell Oil Refining Corp., capital \$25,000, incorporated; Haskell P. Downs, Electric Bldg.

Tex., Fort Worth—Whittle and Kavanaugh's Fourth Co., capital \$100,000, incorporated; Claude Kavanaugh, 2118 Clinton St.

Tex., Hillsboro—Municipal Gas Co. re-building natural gas distribution system.

Tex., Houston—Scientific Producers' Co., chartered; J. R. Aiken, 2019 Portsmouth St.

Tex., Pampa—Dorsyann Oil and Gas Co., capital \$10,000, incorporated; E. J. Dunigan, Jr., M. B. Davis.

Tex., Pettus—Houston Oil Co., Petroleum Bldg., Houston, reported, plans enlarging refinery.

Tex., Refugio—G. P. Shelton, Tulsa, Okla., reported, erect natural gasoline plant, Refugio field.

Tex., San Antonio—City to vote in about 60 days on municipal ownership of gas and electric utilities.

Tex., Tyler—East Texas Consolidated Oil Co., incorporated; Harrison S. Green, Troy Smith.

Tex., Viola—Regarding report Houston Oil Company of Texas will soon start work on refinery, F. Y. Hutchison, Chief Engineer of that company, advises: "Not considering the construction of a refinery at Viola."

Va., Charlottesville—City Council voted against offer of Columbia Gas & Electric Co. to purchase municipal gas plant and to furnish city with natural gas.

Va., Onancock—Sturgis Oil Co., capital \$15,000, chartered; George L. Doughty, Pres., Accomac.

### Ice and Cold-Storage Plants

Fla., Milton—People's Ice Co., N. Tarpon St., Pensacola, erect ice plant; brick, steel and conc.; electrically operated.

N. C., Edenton—Edenton Ice Co., capital \$100,000, incorporated; J. H. Conger.

Tex., Harlingen—Central Power & Light Co., R. A. O'Neill, Refrigeration Engr., San Antonio, rebuilding basement of cold storage plant damaged by explosion.

Va., Roanoke—Virginia Ice Service Corp., chartered; T. A. O'Hara, Pres., 50 Pine St., New York.

### Iron and Steel Plants

Ala., Woodward—Bethlehem Steel Corporation, 755 Broad St., New York, with plants at Bethlehem, Johnstown, Lebanon, Steelton, and Coatesville Pa., Wilmington, Del., Lackawanna N. Y., Los Angeles, and San Francisco, Cal., Seattle, Wash., and Baltimore, Md. reported to be negotiating for acquisition of Woodward Iron Co., with blast furnaces at Woodward and Birmingham; Woodward Iron holdings include 50,000 acres of coal lands, on which three coal mines are operating, and about 5000 acres of red iron ore lands, on which four red ore mines operate.

### Land Development

Ala., Gadsden—Albert Rains and D. C. Byrd, committee members, in charge of preliminary work for 18-hole public golf course.

Ark., Blytheville—Creamery Package Manufacturing Co., 1243 W. Washington Blvd., Chicago, Ill., A. G. Little, Agent, developing 7000 acres in Mississippi County; houses now being built and roads cleared; improvements to be made include construction of houses and barns, building roads and clearing of land; George Gish, Carpenter.

D. C., Washington—David Lynn, Architect of the Capitol, opens bids Aug. 19 for underground lawn sprinkling system in part of U. S. Capitol Grounds east of Capitol Building.

D. C., Washington—Goss Realty Co., 1407 I St., N. W., organized; Earl E. Goss.

Fla., Leesburg—Service Holding Corp., chartered; P. C. Gorman, T. O. Duvall.

Fla., St. Petersburg—C. J. Godsey, Inc., chartered; L. B. Godsey, 332 Fourth St., N.

Fla., St. Petersburg—Tung Oil Colonization Corp., with \$400,000 capital, J. H. Hackney, Atty., First Natl. Bank Bldg., cultivating and planting 500 acres of 10,000-acre holdings in Hernando and Columbia counties, for tung oil production; colonize.

Ga., Augusta—Augusta National Organization Committee, through Clifford Roberts, Suite 201, Vanderbilt Hotel, New York, regarding Augusta National Golf Club that advises officers not chosen, but that Robert T. Jones, Jr., Atlanta Trust Bldg., will probably be chosen president; Dr. Allister Mackenzie, Golf Archt., for project; Olmsted Brothers, Brookline, Mass., Landscape Archts.; Wendell P. Miller, Constr. Engr. for golf course; Willis Irvin, S. F. C. Bldg., Augusta, Archt. for club house.

Ky., Hopkinsville—Sewanee Realty Co., chartered; Irving G. Roseborough, Gant Gaither.

N. C., Charlotte—Sherwood Realty Co., capital \$25,000, incorporated; W. E. Thomas, Johnston Bldg.

Tex., Canyon—City, Harvey Cash, Sec., defeated \$10,000 city park bonds.

Tex., Dallas—Berwald Brothers Realty Co., capital \$150,000, incorporated; Julius Berwald, 2809 S. Blvd.

Tex., Galveston—City, A. D. Suderman, acting street commission, start preliminary work on 140-acre municipal golf course, near Offatts Bayou.

Tex., Houston—Cleveland Realty and Investment Co., capital \$34,000, chartered; A. S. Cleveland, Courtland Place.

Tex., Houston—Windermere Realty Co., capital \$50,000, incorporated; Dr. Marshall Wallis, Medical Arts Bldg.

Va., Norfolk—Norva Realty Corp., capital \$15,000, chartered; J. C. Neims, Jr., Pres., 2333 Ballentine Blvd.

Va., Richmond—Smith and Hesley, Inc., capital \$15,000, chartered; A. D. Smith, Pres., 9 N. Seventh St.; Williams and Mullen, Atts.

### Lumber Enterprises

Md., Elkton—State Roads Comsn., Baltimore, having plans drawn by Wm. F. Stone, Jr., 2612 N. Charles St., for lumber mill; two buildings, 1 story; storage building, 2 stories; cinder block; \$25,000 to \$30,000.

N. C., Cashiers—Whitesides Lumber Co., capital \$100,000, incorporated; M. J. West, T. S. Lance.

N. C., Wilmington—Wilmington Board of Trade and Industry named committee with Emmett H. Bellamy as chairman and W. P. Farrar, J. E. L. Wade, Alton A. Lennon and J. Q. LeGrand as members, to study plan for establishment of hardwood lumber mill to be financed by local capital.

W. Va., Elkins—Morrison, Gross & Co. leased 300 acres of timber, Cassidy fork; construct 1½ mi. railroad; erect creosoting plant.

### Metal-Working Plants

Md., Baltimore—F. M. Simpson Can Co., capital \$15,000, incorporated; Clarence Sweeny, 4410 Ethland St.

Md., Baltimore—Campbell Metal Window Corp., Bush and Hamburg Sts., to award contract to Shepard-Niles Crane & Hoist Corp., 5221 Tramore Road, Baltimore, and 410 Schuyler Ave., Montour Falls, N. Y., for traveling cranes and other steel handling equipment for steel storage warehouse under construction; Davis Construction Co., 9 W. Chase St., has contract for building, 155x145 ft., 35 ft. high, brick and steel. 7-16

### Mining

Ark., Texarkana—H. K. Stewart purchased building material, plant and equipment of Meriwether Sand and Gravel Co.

N. C., Murphy—Columbia Marble Co., 303 Scottish Park St., Knoxville, Tenn., developing quarry in Cherokee County.

Tex., Overton—Rusk Manufacturing Co., capital \$100,000, incorporated; H. H. Coffield; J. H. Edwards; minerals.

### Miscellaneous Construction

Ala., Mobile—Supt. of Lighthouses, New Orleans, La., opens bids Aug. 10 for constructing 800 ft. creosoted pile and timber bulkhead.

Ala., Mobile—B. M. Miller, Governor, Montgomery, signed Mobile County sea wall bill, providing for creation of sea wall district construction of public roads within boundaries, issuance and sale of bonds and formation of supervisory commission; H. D. Shaw, and Harry T. Hartwell, both Gulfport, will be named to commission, along with third member to be selected.

Arkansas—See Missouri.

Fla., Key West—Following estimating on contract for improvement to breakwater, etc., bids to be opened Aug. 5 by A. L. Parson, Chief, Bureau of Yards and Docks, Navy Dept., Washington, D. C.: Newport Contracting & Equipment Co., Lee Hall, Va.; Raymond Concrete Pile Co., Washington, D. C.; Hercules Construction Co., 21 E. 40th St., and Frederick Snare Engineering Corp., 114 Liberty St., both New York; Jones & Laughlin, Pittsburgh, Pa.; J. F. Fitzgerald Construction Co., 38 Chauncey St., Boston, Mass.; Merritt, Chapman & Williams Corp., 833 Harvard St., New Orleans, La.; G. O. Reed, Inc., Miami Beach, Fla.; Kelley Car & Foundry Co., Anniston, Ala.; Atlantic, Gulf & Pacific Co., 15 Park Row, New York; Arundel Corp., Pier 2, Pratt St., Baltimore, Md.; Bethlehem Steel Co., Bethlehem Pa.; J. B. McCrary Engineering Corp., Atlanta, Ga.; W. P. Thruson Co., 301 S. Fourth St., Richmond, Va.; Charles E. Hillyer, P. O. Box 371, Jacksonville, Fla.; Hall-Hodges Co., Inc., Citizens Bank Bldg., Norfolk, Va.; Maritime Quarries, 17 State St., New York; Dudley-Murphy Construction Co., Wagg-Wilson Bldg., West Palm Beach, Fla.; Carnegie Steel Co., Pittsburgh, Pa. 7-23

Fla., Miami—City Comsn. authorized Fred Rand to construct bulkhead and fill, foot N. E. 22nd St. at Biscayne Bay, at city expense.

Fla., Palm Beach—Wells & Forbes have contract, at \$20,580, for 5 steel groynes at E. T. Stotesbury Estate.

Ky., Louisville—U. S. Engr. Office plans dam; 14,000 cu. yd. rock, 1000 cu. yd. lower approach to Auxiliary Lock Dam 41, Ohio River.

La., New Orleans—U. S. Engr. Office, foot of Prytania St., opens bids Aug. 21 for approx. 39,000 cu. yd. earthwork in spoil banks for closure of gaps in side levees, Bonnet Carré Spillway, Second New Orleans Dist.

La., New Orleans—Bd. of Commrs. of Port of New Orleans, 200 New Orleans Court Bldg., let contract to Adema Gravelot Construction Co., Point a la Hache, at 9 cents per cu. yd., for 7102 ft. new levee on riverfront of Delacroix and Beka Plantations, west bank Mississippi River, 10 mi. below Morgan St. Ferry Landing, Algiers, 190,000 cu. yd. earthwork; to J. F. Campbell, at \$8611, for new road at same location, where levee is being moved back; to H. N. Moody, at \$24,544, for removing 9400 old piles from lakefront along seawall project. 7-9

La., Tallulah—Bd. of Commrs. of Fifth Louisiana Levee Dist. build new line of levees in Concordia Parish; work to start immediately and will be completed during 1931; R. B. Shield, Parish.

Mississippi—U. S. Engr. Office, 1006 McCall Bldg., Memphis, Tenn., opens bids Aug. 10 for approx. 3,156,000 cu. yd. earthwork, Upper Yazoo Levee Dist., designated as follows by item number, river miles below Cairo, kind of work, approx. length, est. cu. yd., net height: L-261, 261L, enlargement, 3880 ft., 380,000, 24 to 29 ft.; L-333, 333L, enlargement, 2400 ft., 236,000, 31 to 33 ft.; L-334, 334L, enlargement, 2800 ft., 32 to 37 ft.; L-336, 336L, enlargement, 5207 ft., 620,000, 32 to 36 ft.; L-337, 337L, enlargement, 5311 ft., 620,000, 34 to 35 ft.; L-338, 338L, enlargement and false berm, 5568 ft., 620,000, 33 to 37 ft.; L-339, 339L, enlargement and false berm, 2500 ft., 230,000, 30 to 34 ft.

Miss., Vicksburg—U. S. Engr. Office let contract to Joe Melz, McGeehee, Ark., for 32,000 cu. yd. earthwork, east bank Mississippi River. 7-9

Miss., Vicksburg—U. S. Engr. Office, P. O. Box 667, opens bids Aug. 18 for 19,081,700 cu. yd. earthwork, east and west banks Mississippi River, Ark., and La., and approx. 140,000 cu. yd., south bank Arkansas River, Ark., designated as follows by name, item number, miles below Cairo, kind of work, length, estimated cu. yd., average height:

East Bank Mississippi River—Black Bayou enlargement, 434LA, 434-L, riverside enlargement, 3363 ft., 333,300, 28.2 ft. and 434L-B, 434-L, riverside enlargement, 12,269 ft., 290,000 ft., 30.8 ft.; Levee Lee Setback, 495L-A, 495-L, new, 6472 ft., 977,000, 27 ft., 495L-B, 495-L, new, 5700 ft., 966,800, 27.5 ft., 495L-C, 495-L, new, 6200 ft., 972,300, 26.5, 495L-D, 495-L, new, 7154.5 ft., 965,500, 26.5 ft.; Princeton to Carolina Enlargement, 517L, 517-L, riverside enlargement, 11,551 ft., 715,200, 22.

West Bank—Mississippi River in Arkansas—Seven Oaks to Mosswood Enlargement and New Levee, 505R-A, 505-R, riverside enlargement and new, 5592.3 ft., 978,900, 32 ft., 505R-B, 505-R, riverside enlargement, 14,228 ft., 981,900, 28 ft., 505-R, 505-R, riverside enlargement and new, 11,368.5 ft., 974,600, 29.5 ft.; Old River Enlargement, 522R-C, 522-R, riverside enlargement, 16,600 ft., 781,900, 26 ft.; Old River setback, 522R-D, 522-R, constructing turnover, 11,140 ft., tie-in levee, 300 ft., dike enlargement, 1000 ft., 1,188,000, 59,000 and 3000 cu. yd., respectively, 27 ft. 6-25

South Bank Arkansas River—Lake Belcoe Levee, Item 24, Sec. 1, 2, 3, all Ark. River, all new levee, 907, 639 and 1414.5 ft., respectively, 33,000, 57,000, 50,000 cu. yd., respectively, 12, 20, 11 ft., respectively.

Missouri—U. S. Engr. Office, McCall Bldg., Memphis, Tenn., let contracts for approx. 1,498,000 cu. yd. levee, Lower St. Francis Levee Districts: Stewart, Mo., 335,000 cu. yd., Rogers, Jones & Uzelace, Memphis, \$59,965; Caruthersville, Mo., 65,000 cu. yd., Otto Kochitsky Co., Blytheville, Ark., \$12,740; Caruthersville, 50,000 cu. yd., Henry Hughes Co., Inc., 807 University St., Memphis, Tenn., \$11,000; Barfield, Ark., 547,000 cu. yd., Calahan-Walker Construction Co., Omaha, Neb., \$74,218; rejected all bids for 240,000 cu. yd. near Gayoso, Mo., and 234,000 near Caruthersville, and work will be performed by hired labor with government machinery and equipment.

Mo., St. Louis—City Bd. of Public Service, City Hall, opens bids Aug. 18 for mortuary crematory at city infirmary, Letting 4316.

Mo., St. Louis—City, Bd. of Public Service, opens bids Aug. 18 for indoor swimming pool for colored at N. W. cor. Jefferson and Adams Sts., Letting 4317.

Mo., St. Louis—U. S. Engr. Office, 428 Customhouse, has low bid from Woods Bros. Construction Co., Lincoln, Neb., for 3000 to 7000 lin. ft. revetment, Mississippi River, Burnham Island to Commercial Point (mile

34-38) and Osborne Field (mile 143-146), at \$38,005 and \$43,400, respectively, for Items 1 and 2; from same firm for 3500 to 6000 lin. ft. revetment, Missouri River, Howard Bend, 37.5 mi. above mouth, at \$54,000.

North Carolina—Hydraulic Fill—See Roads, Streets and Paving.

N. C., Wilmington—J. Herbert Bate, Pres., Bate Lumber Co., completed negotiations for constructing \$10,000 wharf on riverfront for handling lumber on ships and barges chartered by firm.

Okla., Hennessey—Burrell Engineering & Construction Co., C. H. Powers, Sup., on site, and 1 N. Canal St., Chicago, Ill., advises started construction on 100,000-bu. conc. grain elevator for Farmers Elevator & Co-Operative Association; foundation in, completion planned for Sept. 1; 4 main tanks, truck dump under shed, loading and unloading spouts, car dump, etc.

Tex., Brady—City plans swimming pool.

Tex., Houston—Harris County Navigation Dist., J. R. Waite, Director, let contract to Southwest L. E. Myers Co., Allen Bldg., Dallas, at \$112,053, for repairing, remodeling substructure of wharf 11, including replacing present wood piling with rein. conc. piling, changing structure. 7-2

Kentucky-West Virginia—Tunnels—See Railways.

Tenn., Nashville—Belle Meade Golf Country Club, Brownlee O. Currey, Chmn., and Will T. Cheek, General Committee on Pool, has plans complete for \$35,000 swimming pool; Warfield & Keeble, Archts., Nashville Trust Bldg.

West Virginia—War Dept. Washington, making series of rock borings in West Fork River, Tygart Valley River and Elk Creek and tributaries in vicinity of Clarksburg to determine possibilities for water-supply reservoirs in Monongahela River; plan constructing large storage dams at several points along these streams which may be drained in times of drought to maintain traffic stage in lower Monongahela.

### Miscellaneous Enterprises

Ala., Selma—C. H. Hicks, Orrville, plans freight and tow service on Alabama River between Selma and Mobile.

Ark., Russellville—Russellville Printing Co., enlarge plant; installing ruling machine and bindery.

Fla., Arcadia—Blake-Lanier Funeral Home, Inc., chartered; J. H. Blake; L. B. Lanier.

Fla., Daytona Beach—Owen's Flower Farm, Inc., chartered; F. Owens, Jr., Deland Road.

Fla., Hialeah—Miami Racing Association, Inc., chartered; B. H. Warburton, E. D. Romph.

Fla., Kissimmee—Sunny South Ice Cream Co., chartered; L. S. Bryarly, B. Miles.

Fla., Lake Placid—Bowers Grove Co., chartered; E. F. Bowers, J. A. Bowers; operate groves.

Fla., Miami—Marine Construction Corp., chartered; L. C. Gunn, Security Bldg.

Fla., Miami—Coconut Products, Inc., G. A. Trice, reported, remove plant from Key West to Miami; manufacture ice cream flavoring.

Fla., Miami Beach—Florida & Canada Amusements Corp., chartered; R. D. Young, 144 N. E. 43rd St., Miami.

Fla., Tampa—Poinsettia Dairy Products, Inc., W. J. Barratt, Pres., Marion and Cass Sts., erect \$100,000 building, Florida Ave. and Emily St.; centralize activities; 34,000 sq. ft. floor space, including quarters for ice cream manufacturing dept., receiving rooms, laboratory for receiving and testing milk, pasteurizing and cooling rooms, bottling, paint shop, offices; G. A. Hanson Co., Inc., Contr., 2115 Madison St.; Frank A. Winn, Jr., Archt., 207½ Twiggs St.

Fla., Wabasso—Miller Groves, Inc., chartered; A. R. Miller; T. H. Sibley; fruit groves.

Fla., West Palm Beach—Dixie Cleaners and Dyers, Inc., chartered; L. D. Goff, 412 Westwood Ave.

Ga., Macon—G. Glen Toole, Mayor, appointed committee to study plan for installation of name plates at street corners.

Ga., Savannah—Southern Home Insurance Co., Charleston, S. C., acquired Savannah Fire Insurance Co.

Ky., Ashland—P. W. Johnson Construction Co., capital \$50,000, chartered; P. W. Johnson, J. W. Shumate.

Ky., Newport—Oken Amusement Co. increased capital stock to \$15,000.

La., Lake Charles—Bob King, 1007 Hendricks St., has plans approved by State Bd. of Health for abattoir.

Md., Annapolis—Coca-Cola Bottling Co., incorporated; Tennie Stanley, Lee Stanley.

Md., Baltimore—Drilling and Exploration, Inc., 1706 First National Bank Bldg., Clinton DeWitt Van Siclen, Douglaston, L. I., N. Y.

Md., Baltimore—Hamburg-American Line, 39 Broadway, New York, and North German Lloyd Line, 2 E. Redwood St., Baltimore, to institute fast freight service between Hamburg, Germany and Baltimore and Ohio railroad piers at Locust Point, Baltimore; sail every two weeks; Germany-bound ships stop at Norfolk; also institute fortnightly freight service to Boston and Philadelphia.

Md., Baltimore—Gunther Brewing Co. to be organized with A. Krieger, Munsey Bldg., as president, to operate plant of George Gunther, Jr., Manufacturing Co.; probably improve.

Md., Baltimore—Charles J. Phillips, stone cutter, 1336 Greenmount Ave., erect 2-story machine and tool shop, 645-53 E. 25th St.: 93x86 ft.

Md., Baltimore—Overall Dry Cleaning and Laundry Co., 803 Sarah Ann St., incorporated; John A. Connelly, Harry L. McGee.

Md., Easton—Easton Journal Publishing Co., incorporated; John H. Cook, James C. Mullikin.

Md., Easton—Crystal Dry Cleaning Plant, incorporated; Charles D. Marshall.

Md., Rockville—Frank H. Karn has contract for dry cleaning plant for Mrs. Wolfson; 2 stories, brick, 25x138 ft.; slag roof, struc. steel; Howard W. Cutler, Archt., 1800 E St., N. W., Washington, D. C.

Mo., Festus—Plant to be erected by Komnick Process Brick Co., 211 Main St., Albert Seelig, V. P., will cost \$105,000, produce 50,000 bricks daily, and require 50 employees; manufacture building and paving brick composed of ground chat from lead mines silica sand and lime hardened in huge cylinders under 150 pounds of steam; machinery for plant now being manufactured in Germany; William J. Becker, Sec., Boatmen's Bank Bldg., St. Louis.

Mo., St. Joseph—Prindle-Branson Furnace Co., incorporated; Arthur R. Prindle, 1021 Frederick St., St. Joseph.

Mo., St. Louis—Fred E. Schiller Construction Co., incorporated; Fred F. Schiller, 9427 Bristol St.

Mo., St. Louis—Holding company known as Multitex Corp. of America, capitalized at \$1,000,000, organized to market a construction material known as Glasssteel and consisting of perforated sheet steel coated on both sides with glass; Christian Anderson, inventor of product, Pres.; Eugene Geissier, V. P.; Otto E. Schroers, 2107 S. Grand St., Sec.

Mo., St. Louis—Service Paper Box Co., incorporated; E. S. Hager, George D. Smith; Harry E. Sprague, Atty., 506 Olive St.

Mo., St. Louis—Hop Ale Co. chartered; E. W. Kersten, 6440 San Benito St.

N. C., Salisbury—E. W. Huffman, and S. H. Pexico purchased Carolina Watchman and Rowan County Record, weekly newspapers.

Okl., Oklahoma City—J. I. Case Threshing Machine Co., Racine, Wis., and 13 E. Main St., erect addition.

Okl., Shawnee—Pruitt and Harp Poultry and Egg Co., capital \$25,000, incorporated; O. G. Harp, Shawnee; H. A. Pruitt, Ardmore.

Okl., Tulsa—Texaco Salt Products Co., 135 E. 42nd St., New York, advises through R. L. Drake, V. P. and Mgr., regarding reports of erection of \$800,000 addition that no addition is being considered.

South Carolina—The Dry Milk Co., Inc., 205 E. 42nd St., New York, subsidiary of the Borden Co., advises through William Callan, president, that company is now investigating possibilities of activity in South Carolina following work already done by Dr. William Weston, of Columbia; H. P. Fell, of the Dry Milk staff, now in South Carolina looking for a plant site where a small experimental unit will be installed; plant will be small unit operated intermittently; reported, H. P. Fell will recommend Newberry as site.

S. C., Columbia—Columbia Dairies, L. H. Ferguson and F. B. Forsythe, owners, 917 Main St., expanding facilities.

Tenn., Greeneville—L. B. Jenkins Tobacco Co., branch of Universal Leaf Tobacco Co., establish re-drying plant and stemmery, with capacity of 7500 pounds per hour; \$50,000; employ 75 to 100 workers.

Tenn., Memphis—Standard Disinfectant Co. chartered; S. L. Lewis, 1728 York St.

Tenn., Memphis—Home Builders Supply Co. chartered; F. F. Dyer, 687 Mansfield St.

Tenn., Nashville—William Gerst Brewing

Co., capital \$150,000, chartered; August L. Gerst, Vinehill St.

Tex., Brownsville—Monty's Monthly Publishing Co., capital \$25,000, incorporated; J. C. Montgomery, I. Sterling.

Tex., Eastland—Eastland Dairy Products, capital \$11,000, incorporated; Thomas R. Seeleye, J. A. Beard.

Tex., El Paso—Nichols Copper Co., 40 Wall St., New York, has not decided whether or not \$1,000,000 rod mill will be built at El Paso.

Tex., Houston—Parkers Brothers & Co., Inc., (sand, shell and gravel) erecting \$75,000 plant, Houston ship channel; also constructing shell dredge at cost of \$65,000.

Tex., San Benito—W. B. Simmons, Buffalo, N. Y., reported, considering erecting sisal twine plant in vicinity of San Benito.

Tex., Tyler—Peoples National Co., capital \$10,000; Tom Wilson, S. A. Lindsey; building.

Va., Norfolk—J. H. Curtis Boat and Engine Corp., capital \$50,000, chartered; Avalon H. Parker; Wolcott & Wolcott, Attys., Seaboard Natl. Bank Bldg.

Va., Portsmouth—The Procter & Gamble Manufacturing Co., Ivorydale, Cincinnati, Ohio, H. J. Marx, Mgr., Portsmouth, advises regarding report of expansion planned for recently acquired Portsmouth Cotton Oil Refining plant that plant will be normally expanded as quickly as demand for products requires.

Va., Petersburg—Moore-Goodrich Co. plans installation excelsior making equipment.

Va., Richmond—Pete's Cleaning Co., chartered; K. B. Bedrosian, Pres.; Carroll D. Hagan, Tty.; Mutual Bldg.

Va., Richmond—Page Printing Co., capital \$15,000, chartered; H. A. Page, Pres.; F. J. Manhart, Atty.; Richmond Trust Bldg.

Va., Staunton—Allen-Lindsey Funeral Home, Inc., capital \$15,000, chartered; Joseph P. Allen, Pres.; L. W. H. Peyton, Atty.

Va., Tenn., Bristol—Big Jack Co., C. L. Kidd, Pres., open second plant in buildings formerly occupied by Artus Knitting Mills.

Va., Yorktown—Yorktown Maritime Corp., chartered; J. W. Hornsby, Pres., shipping, towing, chandler.

Va., Winchester—Hable Theatres, Inc., capital \$50,000, chartered; Herman H. Hable, Pres.; Melvin Flegeneimer, Atty.

West Virginia—Cherry River Paper Co., First National Bank Bldg., Scranton, Pa., with plants at Camden-on-Gauley, and Richwood, W. Va., proposes constructing dam across Little Laurel Creek; over 10 ft. high; Sanderson & Porter, Engrs., 52 William St., New York.

W. Va., Wheeling—American Bridge Co., Frick Bldg., Pittsburgh, reported, has contract for 750 tons plates and shapes for five coal barges for Costanzo Transportation Co.

W. Va., Wheeling—J. Ralph Boyd, 51 Fink St., representing bondholders, purchased Imperial Glass Co.

#### **Motor Bus Lines and Terminals**

Ga., Atlanta—Southeastern Greyhound Lines, Inc., 148 Peachtree St., N. W., have plans about ready for distribution for \$55,000 bus station, Carnegie Way and Spring St.; 1 story, conc., steel, brick, tile, stucco; Hentz, Adler & Shutze, Archts., Candler Bldg.

Md., Baltimore—Paramount Cab Co., incorporated; Walter Harris, 506 Northern Parkway.

Mo., Kansas City—Kansas City & Des Moines Motor Transport Co., incorporated; Richard Hauer, Memorial Bldg., Independence.

N. C., Greensboro—Yellow Taxi Co. of Greensboro; W. S. Wyrick, 1209 Gregory St.

S. C., Columbia—State Railroad Coms. approved application of Inter-Carolinians Motor Bus Co., 223 Forsyth St., N. W., Atlanta, Ga., to operate buses between Columbia and Savannah.

#### **Railways**

Ga., Atlanta—Georgia Power Co., John R. Marsh, Electric Bldg., advises West Hunter car line will be extended from present terminus, W. Hunter and Ashby St. westward  $\frac{1}{2}$  mi. to intersection of Louisville and Nashville R. R.; approx. 800 ft. will be double track, remainder single track, to give 3226 ft. single track; laying by Georgia Power Co. Road Dept., using 80-lb. A. S. C. E. No. 1 medium manganese rails, 5 in. high, welded throughout; rails taken out of stock originally purchased from Tennessee Coal, Iron & Ry. Co., Birmingham; crossties 7 ft. 6 in. long, will be laid, ties treated in company's own plant.

Kentucky-West Virginia—Big Sandy & Cumberland R. R. Co., and Norfolk & Western Ry. Co., W. P. Wiltsie, Roanoke, Ch. Engr., of both, authorized by Interstate Commerce Coms., Washington, to construct 2 mi. cut-off, Pike County, Ky., and Mingo County, W. Va.; \$725,000, including \$433,000 for tunnels and \$7675 for bridges and culverts.

Ky., Louisville—Pennsylvania R. R., H. G. Newcomet, Vice-Pres., Philadelphia, Pa., reported, signed contract with city to construct elevated railroad through 14th St. to eliminate grade crossings, costing approx. \$3,000,000; dirt fill from Pennsylvania Railroad bridge south to Breckinridge St.; streets to be depressed as follows: Main St., 2 ft.; Market, 2; Jefferson, 4.6; Walnut, 4.5; Madison, 7.15; Chestnut, 4.4; Broadway, 4.25; 13th, 2, and 12th, 7.

La., Monroe—City, E. G. Courtney, Mgr., Street Railway Lines, may extend street rail service to northern limits of city by utilization of trackless trolley.

Md., Baltimore—Pennsylvania R. R., C. E. Walsh, Pur. Agt., Room 415, No. 15 N. 32nd St., Philadelphia, Pa., opens bids Aug. 4 for struc. steel.

Missouri—Chicago, Burlington & Quincy R. R. Co., E. F. Hasbrook, Pur. Agt., Chicago, Ill., ordered 300 tons struc. steel for miscellaneous work from American Bridge Co., 71 Broadway, New York.

Mo., Kansas City—Chicago, Rock Island & Pacific Ry. Co., F. D. Reed, V. Pres. and Gen. Pur. Agt., Chicago, Ill., advises all work of equipping locomotives for oil burning is to be done by own employes in own shops.

Mo., St. Louis—Chicago, Burlington & Quincy R. R. Co., F. E. Williamson, Pres., Chicago, Ill., ordered gasoline-electric switching locomotive from Whitcomb Locomotive Co., subsidiary of Baldwin Locomotive Works, Philadelphia, Pa.

Mo., St. Louis—Missouri-Kansas-Texas R. R. Co., G. E. Scott, Pur. Agt., inquiring for baggage and mail gas-electric rail motor car.

#### **Railway Shops and Terminals**

Mo., Springfield—St. Louis-San Francisco Ry. Co., F. G. Jonah, Ch. Engr., St. Louis, let contract to Hedges-Weeks Construction Co., Holland Bldg., Springfield, for rein. conc. water storage reservoir, 30x90 ft., 12 ft. deep, and firehouse having 1 story and basement.

#### **Roads, Streets and Paving**

In connection with **LAND DEVELOPMENT** large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

#### **Proposed Construction**

Ark., Little Rock—Bd. of Commrs., Street Improvement Dist., 518, 903 Rector Bldg., opens bids Aug. 3 for surfacing streets, approx. 10,500 sq. yd. asphalt pavement, removing present wood block and repairs to curbs, gutters and base.

D. C., Washington—Bright-Shepherd Co., Inc., 1415 K St., N. W., submitted low bid for grading, draining Saratoga Ave. between Chestnut Ave., Takoma Park, and Slingo Ave., Silver Spring, at \$17,810.

D. C., Washington—District Commrs., Engineering Dept., Dist. Bldg., drawing plans for extending Massachusetts Ave. to River road and Loughborough underpass; soon ask bids for widening Rockville Pike; plans widening Wisconsin Ave.

Kentucky—State Highway Coms., H. D. Palmore, Engr., Frankfort, opens bids Aug. 12 for 2.1 mi. grading, draining, surfacing, Scottsville-Bowling Green road, point in existing road near New Bethel Church to 2 mi. west of Scottsville, Allen County, in addition to projects previously announced for this letting.

La., Alexandria—City Coms. rejected bids for paving lower Third St.; take new bids Aug. 3.

La., Baton Rouge—East Baton Rouge Parish Police Jury, Courthouse Bldg., opens bids Aug. 18 for 4-ft. conc. sidewalk along Bayou Sara road, Third Ward, approx. 2187 sq. yd.; 4-ft. conc. sidewalk along plank road, 1949 sq. yd.; 4-ft. conc. sidewalk, Duggan St., 9th Ward, 790 sq. yd.; 4-ft. conc. sidewalk eastern extension Government St., 1240 sq. yd.; J. J. Mundinger, Parish Engr.

La., Bunkie—Town, Mayor and Bd. of Aldermen, opens bids Aug. 25 for constructing and paving streets: 6600 sq. yd. street pave-

ment, 1800 cu. yd. earth excavation, 400 lin. ft. Maricopa section, 600 sq. yd. sidewalks and gutters removed, storm sewer inlets, sewer manholes, sewer pipe, 36,000 sq. yd. black top surfacing, 36,000 lin. ft. 6-in.x12-in. conc. flush curb, 2000 cu. yd. gravel base; J. B. McCrary Engineering Corp., Engr., Atlanta, Ga.

La., New Iberia—City, Joseph A. Gaigre, Mayor, plans starting gravel and shell paving approx. 6 mi. paving about Aug. 1.

**MARYLAND**—State Roads Comsn., L. H. Steuart, Sec., Baltimore, has low bids for 5 roads and bridge project in following counties:

Anne Arundel—57 mi. gravel, Mayo to Beverly Beach, AA-122-74; Thos. Mullan, 3945 Greenmount Ave., Baltimore, \$8153; repairing bridge over South River, Edgewater, AA-125-711, Smith Bros., Galesville, \$3340;

Baltimore City—41 mi. sheet asphalt, Liberty Heights Ave., Howard Park Ave. to Rogers Ave., BC-107-72, P. Flanigan & Sons, Inc., Harford Road and B. & O. R. R., Baltimore, \$47,522;

Calvert—4.42 mi. gravel, Huntington toward Little Lyons Creek, C-44-84, Jarboe & Houghton, Mechanicsville, \$30,841;

Carroll—3.2 mi. conc., Littlestown Pike toward Backmans, CI-81-54, Thomas, Bennett & Hunter, Westminster, \$71,312;

Howard—145 lin. ft. conc. Washington & Baltimore Blvd., Ho-99-38, Christhill & Ensley, 1625 Ridgely St., Baltimore, \$5547. 7-18

**MARYLAND**—State Roads Comsn., L. H. Steuart, Sec., Baltimore, opens bids Aug. 4 for 6 roads in following counties:

Baltimore—2.05 mi. conc. header and base and conc. shoulders, Sparrows Point road, North Point road to Edgemere, B-128-411;

Calvert—0.95 mi. gravel, Solomon's Island road toward Governor's Run, C-52-84; 2.05 mi. gravel, Port Republic-Broome Island road toward Parker's Wharf, 1 mi., and Port Republic-Broome Island road toward Williams' Wharf, 1.05 mi.;

Harford—1.69 mi. macad., Churchville toward Level, H-127-44; 0.31 mi. macad., Union St., Havre de Grace, from Revolution Ave. to Commerce St., H-133-44;

Wicomico-Somerset—7.87 mi. conc. and 0.81 mi. conc. shoulders, Salisbury-Princess road about 1.6 mi. south of Fruitland road via Eden and Loretta to Princess Anne, WI-79, S-33-13.

Md., Baltimore—City, Bd. of Awards, care City Register, opens bids Aug. 5 to grade, curb and pave with cement conc. streets in Cont. 598, 9600 sq. yd. cement conc., and to grade Kidds Schoolhouse road, vicinity of Prettyboy Dam, Baltimore County, Cont. 599.

Md., Baltimore—City, Bureau of Highways, Nathan L. Smith, Highways Engr., has low bid from Peter Aversa, 104 N. Highland Ave., at \$27,845, for Footway Cont. 121, 20,000 sq. yd. conc. 7-16

Md., Easton—City Council build sidewalks; work in charge of Chas. W. Sigman.

Md., Fort George G. Meade—Construction Quartermaster opens bids Aug. 5 for constructing main roads, service roads, water lines, sanitary sewer and storm water lines, manhole and underground electric distribution system for officers' and non-commissioned officers' areas.

Miss., Belzoni—Humphreys County Supr., A. R. Hutchens, Clk., opens bids Aug. 3 for graveling roads.

Miss., Biloxi—Mississippi Power Co. and its subsidiary, Mississippi Coast Traction Co., reached agreement to pave certain streets in city.

Miss., Gulfport—Harrison County Supr., E. McManus, Clk., opens bids Aug. 3 for furnishing, delivered and rolled in place on Caillavet St., Biloxi, 75 to 80 tons machine mixed penetration road surface material.

Miss., Water Valley—Yalobusha County Supr., W. B. Hunter, Clk., opens bids Aug. 3 for furnishing 50 cars gravel on roads.

Mo., Clayton, St. Louis—St. Louis County, Roy Jablonsky, Highway Engr., opens bids Aug. 12 for 3.5 mi. 20-ft. conc., Lockwood Ave., 2633 ft. 10-ft. conc. slabs on each side of Manchester car tracks; Meramec Station road, 20-ft. conc. slab, 11,914 ft.; Vandover road, 6235 ft.

Mo., Crane—City, Bd. of Aldermen, has low bids for 7 blocks paving: Alt. A, emulsified asphalt, Thogmartin & Reis, Fort Scott, Kans., \$16,948; Alt. B, cutback asphalt, Garrett Construction Co., only bidder, \$16,170.

Mo., Kansas City—City, Park Bd. authorized resurfacing Robert Gillham road, 22nd St. to 23rd St., in preparation of completion of Oak St. viaduct.

Mo., St. Louis—City, Bd. of Public Service, W. W. Horner, Ch. Engr., has low bid from Chase Construction Co., 5230 Devonshire St., at \$69,183, for widening 12th St.; from Perkins Bros. Construction Co., 3237

Carter St., at \$43,000, for paving widened Seventh St.; from Asphalt Paving Co., 1328 Sublette St., at \$7400, for paving Park Lane; same firm for paving Edelle Ave., at \$14,458; rejected bids for paving Washington Blvd.; will readvertise.

Mo., St. Louis—City, Bd. of Public Service, City Hall, opens bids Aug. 18 for improving several streets, Lettings 4318 to 4322.

Mo., St. Louis—City, Bd. of Public Service, City Hall, opens bids Aug. 21 for reconstructing Washington Ave.

**NORTH CAROLINA**—State Highway Comsn., John D. Waldrop, Engr., Raleigh, has low bids totaling \$273,555 for 7 roads in following counties:

Carteret—hydraulic fill, Route 10, No. 2031, Dicus Bros., Waynesville, \$54,800;

Lenois—12.63 mi. widening Route 10, No. 2561, West Construction Co. of North Carolina, Kinston, \$36,670;

Chatham—4.3 mi. top soil and gravel, Route 90, No. 4013, Welker Bros., \$26,989;

Wake—5.57 mi. top soil, gravel, Route 90, No. 4780, Nello Teer, Geer Bldg., Durham, \$31,244;

Davie—6.77 mi. gravel, Route 90, No. 7330, George R. Martin, Salisbury, \$28,925;

Clay-Macon—5.91 mi. surfacing, Route 28, No. 9250, R. G. Lassiter, Raleigh Bk. & Tr. Bldg., Raleigh;

Madison—5.95 mi. surfacing, Route 20, No. 9694, M. A. Kollock, Hendersonville, \$31,158.

North Carolina—State Highway Comsn., H. D. Waldrop, Engr., Raleigh, take new bids for hydraulic fill, Route 10, No. 2031, Carteret County.

Okl., Tulsa—City, H. A. Parker, City Engr., soon call for bids for widening portion of W. 11th St.

Okl., Wewoka—Seminole County Comms., calling for bids for grading, draining 2½ mi. road between southeast edge of city limits to Dixie Camp.

Tenn., Knoxville—City, James A. Trent, Mayor, expend approx. \$100,000 at once for paving.

Tenn., Memphis—City Council passed ordinance for paving neutral strip on Lamar Blvd., \$20,054; also for pavement and improvement, Bellevue, \$45,099; Poker St., \$16,897; Crockett, \$18,373 and Hastings \$20,763.

Tex., Houston—City, J. M. Nagle, drawing plans for paving Dunlavy St., Welch Ave. and Louisiana St. in connection with Southern Pacific station project.

Tex., Houston—City, J. M. Nagle, City Engr., soon submit plans for major paving improvements in N. Main St. and 20th Ave., \$100,000 and \$116,000, respectively; install \$45,000 storm sewer system in N. Main St.; have plans ready within 30 days for extending White Oak Dr., and improving with inverted penetration surface without curb and gutter, and will include storm sewer system and bridge over White Oak Bayou.

Tex., Yorktown—City, M. Westhoff, Mayor, opens bids Aug. 3 for paving and curbing Main St., approx. 7 blocks, including street intersections; John M. Fenner, Res. Engr., Cuero.

Tex., Waco—City, E. E. McAdams, City Mgr., opens bids Aug. 18 for paving S. 18th, S. 12th Street and Herring Ave.; bids to be taken on following types: Warrenite bituminous, limestone rock asphalt, asphaltic conc., conc.; 5250 sq. yd. pavement, 1150 cu. yd. excavation, 2300 lin. ft. straight gutter, 100 lin. ft. combination curb and gutter, 200 lin. ft. conc. headers, 1400 sq. ft. gutters removed; J. H. Strange, City Engr.

Virginia—State Dept. of Highways, C. S. Muller, Ch. Engr., Richmond, voted to begin immediate resurfacing George Washington Highway, Route 40, for which \$100,000 is available.

Va., Langley Field, Hampton—Constructing Quartermaster, Fort Monroe, has low bid from R. G. Lassiter & Co., Raleigh Bk. & Tr. Bldg., Raleigh, N. C., at \$40,764, for conc. roads, curbs and sidewalks, non-commissioned officers' area. 7-2

W. Va., Charleston—Kanawha County Court, John C. Blackwood, Pres., soon ask bids for grading 3 mi., Cabin Creek road between Ronda and Giles.

W. Va., Huntington—City Comms., will include \$40,000 in 1931-32 budget for additional work on fills for new route of State Highway 60 west of Camden park; City Engr. instructed to prepare estimate of cost of work necessary, to complete city's share of highway project.

#### Contracts Awarded

Ala., Montgomery—Constructing Quartermaster, Maxwell Field, let contracts as follows: Roads, curbs and gutters, etc., Item 1, Rad-Batson Co., Birmingham, \$69,044; drainage system, Item 2, Hornbuckle Contracting Co., Standard Bldg., Atlanta, Ga.,

\$19,200; sanitary sewer system, Item 3, Carey-Reed Co., 613 Guaranty Bank Bldg., Lexington, Ky., \$5871; extension of water system, Item 4, Rad-Batson Co., \$13,270. 7-23

Ark., Camden—City, Bd. of Public Affairs, let contract to C. L. Bessler, 710 Hobson St., Hot Springs, for paving River road at approx. \$18,000.

Georgia—Southern Limestone Products, Cordele, has contract with State Highway Dept., J. W. Barnett, Chmn., Atlanta, for limestone base material for route from Blakely north to Early County line, calling for 900 cars base.

Ga., McDonough—City, W. J. Greer, Clk. and Treas., let contract to Davis Construction Co., Rhodes-Haverty Bldg., Atlanta, for 17,560 sq. yd. street paving and improvement; est. \$35,000; Knox T. Thomas, Engr., 611 Standard Bldg., Atlanta. 7-9

Mo., Independence—Jackson County Court let contracts for 18 mi. roads and 7 bridges, totaling nearly \$800,000, all road to be 18-ft. conc.: Colborn road extension, 10.9 mi., A. A. Davis Construction Co., Kansas City, \$333,890; Grain Valley road extension, 8.5 mi., C. H. Atkinson Paving Co., Watertown, S. D., \$203,123; 63rd St. extension, W. A. Ross Construction Co., 25th and Summit Streets, Kansas City, \$61,674; Oak Grove road, 1 mi., W. A. Ross Construction Co., \$21,216; Sibley road, 1 mi., Tyner Construction Co., 14th and Elmwood Sts., Kansas City; to J. W. McMurray Co. for 6 bridges, Colborn road, \$89,405; bridge, Buckner-Tarsney road, Ben Prater, Harrisonville, \$16,313; Leo Koehler, County Highway Engr.

Tex., Amarillo—Potter County, Sam B. Motlow, County Judge, let contract within 30 days for 7 mi. paving U. S. Highway 66 between Amarillo and east Potter County line.

Tex., Galveston—Galveston County let contracts to Haden & Austin, Post-Dispatch Bldg., Houston, and N. P. Tuner, Galveston, for surfacing about 14 mi. lateral roads with asphalt and rock, including Texas City-Kemah-Dickinson-San Leon and stretches of highway in Dickinson and League City.

**LOUISIANA**—State Highway Comsn., O. K. Allen, Chmn., Baton Rouge, let contracts for 3 roads in following parishes:

St. Tammany—11.6 mi. asphaltic surface treatment between Covington and Bush, Nelson Bros., Baton Rouge, \$95,077;

Beauregard—7.480 mi. gravel between Dry Creek and intersection with Route 22, H. E. McEachen, Winnfield, \$27,556;

Evangeline—9.1 mi. gravel between Mamou and Chataignier, F. Lahayne & Fontenot, Ville Platte, \$31,371. 7-23

La., Opelousas—City, Mayor and Bd. of Aldermen, Office of R. L. Fields, City Clk., let contract to B. J. Carbo, 212 20th St., Alexandria, for conc. pavement. 7-2

Mississippi—State Highway Comsn., Jackson, let contract to Cobb Bros. Construction Co., Meridian, at \$32,063, for 1.73 mi. paving, Highway 80, Meridian west to Newton County line, Lauderdales County, FAP 185-B. 7-16

Miss., Yazoo City—City, P. J. Griffin, City Clk., let contract to Wright Construction Co., 3001 Fifth St., Meridian, at approx. \$135,000, for Alabama lime rock asphalt surface on conc. base and some conc. surface. 7-9

Mo., Clayton, St. Louis—St. Louis County, Roy Jablonsky, Highway Engr., let contracts for paving 3 mi., totaling \$125,347; Ballas road, Skrainka Construction Co., Security Bldg., \$62,825; Forsythe Blvd. cutoff, Creech Construction Co., 4150 Bingham St., \$14,735; Delaware Ave., Joseph F. McMahon, \$16,421; Airport road, Joseph F. McMahon, Buder Bldg., \$31,366; 20-ft. conc. slab on all projects. 7-16

Tenn., Chattanooga—Carter Construction Co., 923 Carter St., has contract, at \$262,000, for 17.2 mi., 18-ft. government road in Shiloh National Park, through Tennessee and Mississippi; contract adopted from original contractors, J. M. Allen Co., Chamberlain Bldg.

Tex., Houston—Harris County Comms., Court, let contract to F. L. Scott, Route 3, Dixie, for oil treating Pasadena-South Houston road; calls for using 24,000 gal. oil.

Tenn., Memphis—City Comsn. let contract to Carey-Reed Paving Co., 575 N. Front St., for paving Broad St., at \$14,000, and for paving First St., at \$1986.

Tex., Houston—Harris County Comms. Court, let contract to A. Bailey for shelling City Farm road.

W. Va., Bluefield—City, Elmer C. Barton, City Mgr., let contract to Lilly Bros. for 3 street projects.

W. Va., Princeton—Mercer County Court let contract to Patsy Small & Co., Bluefield, at \$18,402, for 4 mi. grading between Weyanoke and Clark's Gap; 60,000 cu. yd. excavation.

### Sewer Construction

**Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.**

Ala., Tuscaloosa—City, W. H. Nicol, City Engr., let contract at \$99,185 to Jacobson and Mortenson, Hammond, La., for sanitary sewer system; includes 14 mi. 8-in. to 30-in. conc. sewer pipe; total cost of system \$123,000; Norfleet Harris, Pres. Bd. of Commsrs. 6-17

Ark., Benton—McEachin & McEachin, Home Ins. Bldg., Little Rock, has contract at \$74,752 for six miles of outfall sewer and sewage disposal plant, State Hospital for Nervous Diseases; Mann, Wagner & Kling, Architects, Donaghay Bldg., Little Rock. 7-16

Ky., Louisville—Commsrs. of Sewerage of Louisville, Frank D. Rash, Act. Chmn., opens bids Aug. 6 for Sec. B Beals Branch trunk sewer, Cont. 57, and Aug. 20 for Mill Creek trunk sewers, Cont. 58. See Want Section, Bids Asked.

Md., Baltimore—City let contract, at \$48,428, to Marino Contracting Co., 303 N. Exeter St., for Storm Sewer Contract 167.

Md., Baltimore—City, Bureau of Sewers, has low bid of \$13,375 from Link Belt Co., Huntington Park Ave. and Nicetown Station, Philadelphia, Pa., for sewage screen material.

Md., Cumberland—City Council passed ordinances for sewers on Oldtown Rd., from Hill Top Drive to Mullen St.; Maple St.; Massachusetts Ave., from Oldtown Rd. to Church St.; Church St., from Massachusetts Ave. to Oregon Ave.; Kentucky Ave.; Michigan Ave.; Lagonda St.; Utah Ave.; Massachusetts Ave., from Michigan to Kentucky Aves.; New Hampshire Ave.

Md., Easton—City renovate sewage disposal plants.

Mo., St. Joseph—City has low bids from Oscar H. Schmidt, 112 N. Ninth St., for sewers, Dist. Nos. 168 and 149; from E. F. Migney, 1108 Bellevue St., for sewers, Dist. No. 184; and from Hugh Devlin for sewers, Dist. No. 101.

N. C., Ruxboro—City, Mayor and Bd. of Commsrs., receive bids Aug. 7 for approximately 2500 ft. 18-in. and 24-in. outfall sewer; Spoon & Lewis, Engrs., 432 Jefferson Bldg., Greensboro.

Tex., Palestine—City constructing sewer in northeast section of city.

Tex., Houston—See Roads, Streets and Paving.

Tex., Houston—City let contract at \$54,743 to Russ Mitchell, Inc., Petroleum Bldg., for Hazard Street storm sewer.

Tex., Victoria—City, E. J. Blackert, Mayor, opens bids Aug. 3 for 1676 lin. ft. 60-in. monolithic sewer.

Va., Richmond—City, R. Keith Compton, Director of Public Works, considering request of University of Richmond for permission to connect sewer system with sanitary district No. 1.

W. Va., Parkersburg—City Council approved plans submitted by Leland G. Merrill, City Engr., for construction of 16 mi. of sewers in North End territory; \$190,000; probably receive bids in Aug. on 8-in. sewers, Mohawk Ave., Vaughan Ave., 23rd St., Morningside Ave., and Cypress St.; also construct storm sewer from intersection of 16th and Friant Sts., to intersection of 16th and Hoff Sts., through City Park to 23rd St.; work involved includes approximately 72,000 cu. yds. excavation; 32,000 lin. ft. 6-in., 35,000 lin. ft. 8-in., 4600 lin. ft. 10-in., 2000 lin. ft. 12-in. and 1350 lin. ft. 15-in. vitrified sewer pipe; 171 manholes, 4 flush tanks, and replacement of about 3000 sq. yds. various types of pavement; 6-in. pipe will be used for house laterals.

### Telephone Systems

Ala., Birmingham—Aeronautical Radio, Inc., Roberts Field, Birmingham, and National Press Bldg., Washington, D. C., granted license by Federal Radio Comsnn., Washington, for construction at WSDE; 3484 kc.

D. C., Washington—Chesapeake & Potomac Telephone Co., 725 13th St., N. W., received bids July 28 for additions and alterations to telephone exchange, Wisconsin Ave. and Warren Sts.; 3 stories, 26x85, brick, hollow tile and stone; Waddy B. Wood, Archt., 816 Connecticut Ave.

Fla., Miami—Aeronautical Radio, Inc., National Press Bldg., Washington, D. C., plans radio station at municipal airport, 79th St.

Ga., Thomasville—Stevens Luke granted permission by Federal Radio Comsnn., Washington, to make equipment changes and increase power.

Ky., Owensboro—The Voice of Blue Grass applied to Federal Radio Comsnn., Washington, for construction permit; 940 kc.

La., Monroe—Dr. F. P. Corniglia applied to Federal Radio Comsnn., Washington, for construction permit; 1310 kc.

Maryland—Chesapeake & Potomac Telephone Co. authorized \$954,370 expenditure for work in Maryland; includes telephone cable extensions in Easton and along the Easton-Queenstown, St. Michaels, Hurlock and Denton long distance lines to replace temporary construction.

Miss., Vicksburg—Delta Broadcasting Co., Inc., granted license by Federal Radio Comsnn., Washington, for construction at WQBC; 1360 kc.

N. C., Fayetteville—Carolina Telephone Co. negotiating for 60-year franchise.

Okla., Shattuck—Southwestern Associated Telephone Co., J. M. Keffer, Dist. Mgr., install common battery telephone system to replace magneto system.

S. C., Columbia—Liberty Life Insurance Co., Greenville, purchased radio station WIS; improve.

Tex., Dallas—Southwestern States Telephone Co. issue \$1,000,000 gold bonds.

Tex., Huntsville—Southwestern Bell Telephone Co., W. C. Haley, Bldg. Engr., Dallas, let contract to Albert Meyerson, 2119 McGregor St., Houston, for exchange.

Tex., Paris—W. G. Jasper applied to Federal Radio Comsnn., Washington, for construction permit; 1370 kc.

Tex., San Antonio—Southwestern Bell Telephone Co., B. D. Hull, Ch. Engr., Dallas, opens bids Aug. 3 for addition and alterations, 2-story, Mission Exchange, S. Presa St. and Grove Ave.; 115x51 ft., brick and rein. conc., struc. steel, struc. clay, tile, terra cotta, stone; I. R. Timlin, Archt., Telephone Bldg., St. Louis; W. J. Knight & Co., Engrs., Wainwright Bldg., St. Louis. 7-23

Va., Richmond—City considering granting new franchise to Chesapeake & Potomac Telephone Co. of Virginia.

Va., Roanoke—Chesapeake & Potomac Telephone Co. of Virginia, Richmond, expending \$65,000 for extending underground conduit and cable and aerial cable in northeast and southwest sections.

West Virginia—Chesapeake & Potomac Telephone Co. of West Virginia, Charleston, expend \$317,755 in West Virginia; includes relocation of poles between Huntington and Logan and between Thurmond and Beckley; telephone service between U. S. Dam No. 20 at Humphrey and Parkersburg; installation of switchboard equipment at Charleston and Fairmont; construction of long distance circuits between Beckley and Virginia line.

### Textile Mills

Ala., Anniston—Anniston Manufacturing Co., installing 25 Model X 40-in. looms, purchased from Draper Corp., Hopedale, Mass.; also purchased two Universal No. 40 winders, and two high speed warpers from Saco-Lowell Shops.

Ga., Gainesville—Kaufman-Baer Co., hosiery manufacturers, Philadelphia, Pa., negotiating with view to erecting plant.

N. C., Gastonia—Ranlo Manufacturing Co., Third Natl. Bank Bldg., plans installing new dyeing equipment in Modena Mills.

N. C., Mount Airy—Surry Knitting Mills, capital \$100,000, incorporated; G. C. Lovill, Zeb V. Hatcher.

N. C., Star—Star Hosiery Mills, capital \$25,000, incorporated; M. C. Holderfield, B. B. Hogan.

Okla., Sand Springs—W. R. Grimshaw, Contr., Kennedy Bldg., Tulsa, advises through Charles G. Webb that contract at Sand Springs bleachery involves small private filter plant to service existing bleachery; \$27,000; construction under way; two carloads east iron pipe and valves to be purchased. 7-2

S. C., Greenville—Fiske-Carter Construction Co., Greenville, S. C., let following subcontracts in connection with addition to silk mill of Dunean Mills: Cast iron columns, Paul Wright & Co., Brown-Marx Bldg., Birmingham, Ala.; struc. steel, Greenville Steel & Foundry Co., 120 Markley St., Greenville; sash and doors, David Lupton's Sons Co., 2263 E. Allegheny Ave., Philadelphia, Pa.; building, 81x171 ft., 1 story and part basement; rein. conc. walls, steel beams, cast iron columns, wood floors and roof, steel sash; J. E. Sirrine & Co., Engrs., Greenville.

S. C., Rock Hill—Rock Hill Hosiery Co. double capacity of plant.

Tex., Port Neches—Carolina Mills, Frank N. Norris, V. P., to acquire site for plant at Port Neches; P. L. Hare, Real Estate Representative, Beaumont.

### Water Works

**Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that Classification.**

Ala., Maxwell Field, Montgomery—Capt. M. A. McFadden, Constructing Quartermaster, Maxwell Field, received low bid of \$15,435 from Chicago Bridge & Iron Works, 1500 N. 50th St., Birmingham, for one 300,000-gal. steel tank on 100-ft. trestle. 6-16

Ky., Clay—City let contract to Christensen Brothers Co., Urbana, Ill., for water works system; American Cast Iron Pipe Co., 2930 N. 16th St., Birmingham, Ala., furnishing pipe; Green Engineering Co., Engrs., Paducah, Ky.

Ky., Harlan—City advises through L. O. Smith, Mayor, that purchase of new water system is contemplated; if consummated, will extend lines next year. 7-23

La., West Monroe—City let contract to Layne-Louisiana Co., 210 Broad St., Lake Charles, for drilling water well.

Md., Baltimore—City, Bureau of Water Supply, receives bids Aug. 5 for installation of approx. 1600 ft. 48-in. cast iron pipe at Ashburton Pumping Station.

Mo., Huntsville—City plans \$25,000 water works improvements; E. T. Archer & Co., Engrs., 609 New England Bldg., Kansas City.

Mo., Springfield—See Railway Shops and Terminals.

Mo., St. Louis—City let contract to American Cast Iron Pipe Co., Birmingham, at \$16,000 for 20-in. mono-cast iron pipe.

Mo., Waynesville—City voted \$21,000 water works bonds; let contract Aug. 4.

Okla., Heavener—City plans \$75,000 water works improvements; V. V. Long & Co., Colcord Bldg., Oklahoma City.

S. C., Greenville—Water Works Comsnn., W. C. Beacham, Chmn., requested permission of City Council to expend \$90,000 for installation additional water main from northern city limits through eastern section; 4 mi. long.

S. C., Greenville—Greater Greenville Sewer District, T. C. Gower, postponed bids to be received Aug. 11 for water and sewer systems in Parker, Augusta Road and Northgate heights subdistricts; rejected bids on \$610,000 bonds.

Tenn., Athens—City authorized by Legislature to issue \$200,000 water bonds.

Tex., Dallas—Dallas County Preston Road Fresh Water Supply District No. 10, Ira P. DeLoache, Chmn. Bd. of Supervisors, open bids Aug. 1 for laying 17 mi. water mains and erecting pumphouse and steel tank; connect with Dallas municipal water supply near Love Field at Lemmon Ave. and Lovers Lane; \$175,000.

Tex., Houston—City soon increase capacity of reservoir at Scott street pumping station, 300,000 to 2,000,000 gal.

Tex., Randolph Field—Capt. A. W. Parker, Constructing Quartermaster, opens bids Aug. 3 for four auxiliary conc. water storage tanks and one conc. covered reservoir; elliptical shape; A, 75x150 ft., 324,000 gal.; B, 60x120 ft., 193,000 gal.; C, 60x120 ft., 193,000 gal.; D, 75x150 gal., 371,000 gal.; reservoir 50 ft. diam., 7½ ft. deep, 100,000 gal. capacity. 7-9

Va., Yorktown—Dept. of the Interior, National Park Service, Oliver G. Taylor, Engineer in Charge, Colonial National Monument let contract at \$15,848, to Virginia Engineering Co., First National Bank Bldg., Newport News, for installation of water distribution; 4680 ft. 8-in. and 11,000 ft. 6-in. cast iron pipe.

W. Va., Beckley—West Virginia Water Service Co., J. A. Cunningham, Gen. Mgr., acquired properties of West Virginia Utilities Co.; includes electric plant at Beckley; water plants at Glenville, Gassaway, Springfield, Ky., and Campbellsville, Ky., water and ice plants at Sutton; 21 gas and oil wells with several thousand acres of leases in Gilmer and Ritchie counties.

W. Va., Charleston—West Virginia Water Service Co., 183 Summers St., plans diversion dam at Mink Shoals on Elk River.

W. Va., Grantsville—Town receives bids Aug. 11 for small filter plant, including high and low lift pumps; J. P. Blundon, Consul. Engr., Law Bldg., Keyser.

W. Va., Martinsburg—City voted \$100,000 water works bonds; Charles Wever, City Engr.; G. W. F. Mullins, Member, Water Coms.

W. Va., Parkersburg—City construct water system improvements in eastern section, from 20th and Oak Sts., 3½ mi.; 16-in. supply line; Randolph Lyons, Supt.

### Woodworking Plants

Fla., Tampa—Evans Products Co., Union Guardian Bldg., Detroit, Mich., advises through E. S. Evans, Jr., Pres., that company is planning to put small plant at Tampa to manufacture patented fruit containers; rent 10,000 sq. ft. factory space; have daily output of 10,000 to 30,000 units; initial investment approximately \$50,000; machinery to be shipped from Detroit; ultimately planning \$750,000 investment in factories, including one at Tampa. 7-23

Ky., Monticello—Wood-Mosaic Co., Highland Park, Louisville, locate branch plant in Monticello; J. T. Wilson, local mgr.

### FIRE DAMAGE

Ala., Opelika—J. T. Hamilton's residence. Ark., Flippin—McCracken Hotel; Sullivan Restaurant; Flippin Meat Market; loss \$20,000.

Ark., Lewisville—W. H. Ford's two buildings on Front St.; loss \$10,000.

Ark., Paragould—Engine room of Hickson-Rogers Manufacturing Co.

Ga., Albany—J. C. & W. C. Holman's sales stables on Broad St.; loss \$10,000.

Ga., Tybee—A. F. Solms' 2 dwellings; 2 dwellings owned by Mrs. J. D. Carbo; 2 by E. B. Izlar; 2 by Mrs. Chas. B. Cregar; Waynesboro tea room owned by Mrs. Pearl Bowen; Mrs. Harris' coffee shop; Joe Whelan's store; Mrs. Fannie Lasky's residence; Shamrock Lodge owned by Mrs. Ida Perkins; M. Wilinsky's cottage.

Ky., Bowling Green—Wharf and steamer "Evansville," owned by Evansville and Bowling Green Packet Co.

Ky., Louisville—Abe Bornstein's warehouse, 825 W. Main St., occupied by Klempner Brothers; loss \$14,000.

Ky., Shelbyville—Growers House on Equity St., operated by W. C. Hanna, H. D. Martin and C. N. McMakin, and leased from Western District Warehouse Corp., subsidiary of old Burley Tobacco Growers Co-operative Assn.; loss \$60,000; storage barn owned by C. L. Waters and D. T. Long, loss \$3000.

La., Glenmora—Portman's Cafe; Mizell Insurance Agency; Rialto Theater; Savoy's Barber Shop; I. W. Melder's Barber Shop; Scarsdale Jewelry Establishment; loss \$50,000.

Md., Crisfield—Pier, warehouses of Pennsylvania R. R. and Baltimore & Virginia Steamboat Co.; loss \$150,000; address W. R. Davis, Supt., Pennsylvania R. R., Cape Charles, Va.

Miss., Laurel—Edwin Hotel, Edwin Smith, Propr.

Miss., Philadelphia—D. Kasdan Department Store, owned by D. Kasdan, 1360 S. First St., Louisville, Ky., operated by Morgan Parker; loss \$30,000.

Mo., Ash Grove—Bridge of St. Louis-San Francisco Ry., F. G. Jonah, Ch. Engr., St. Louis; \$12,000.

Mo., Edwardsville—Home Trade coal mine, operated by Jack Considine; loss \$50,000.

Mo., Webb City—Mill of Ball-Gunning Milling Co.; loss \$60,000.

N. C., Concord—Gibson and Hobart Mills, units of Cannon Manufacturing Co.

S. C., Columbia—Warehouse of Southern Ry. System, G. L. Sitton, Ch. Engr., M. W. & S. Lines East, Charlotte, N. C., occupied by Guarantee Bag & Burlap Co., Herman Gottlieb, Pres.

Tenn., Gate City—Kemper H. Davidson's residence near Speers Ferry.

Tex., El Paso—E. R. Bridges' residence, 2820 Hamilton St.

Tex., Kilgore—Tanks of Pace Petroleum Co.; loss \$10,000.

Tex., San Augustine—Pumping plant of Texas Co., main office Houston, Tex.

Va., Danville—Flour mill, Stoney Mills section of Pittsylvania county, owned by C. J. Blair; loss \$10,000.

Va., Harrisonburg—Brooder building, hatchery, Assembly Park; A. G. Heishman, owner.

Va., Norfolk—Plant of American Box and Lumber Co., Inc., Seventh and Broad Sts.; loss \$25,000.

Va., Phiippi—Gainer Brothers' store; loss \$15,000.

Va., Williamson—Plant of Williamson Bakery, L. D. Feuchtenberger, Owner, Bluefield; loss \$30,000.

## BUILDING NEWS

### BUILDINGS PROPOSED

#### Association and Fraternal

Miss., Hattiesburg—Allen B. Carter Post No. 24, American Legion, A. H. Anderson, Chmn., Bldg. Comm., plan clubhouse.

Okla., Alva—American Legion, E. J. Zimmerman, Commdr., Kent W. Johnson, Chmn., Bldg. Comm., soon select architect for \$25,000 store and lodge bldg.; brick, 2 stories and basement.

Tex., Raymondville—Three Links Building Co., A. R. Coulter, Pres., reported, has low bid at about \$9500 from Blythe & Duerson, Harlingen, for I. O. O. F. lodge bldg.; Kenneth W. Williams, Archt., P. O. Box 615, Raymondville.

#### Bank and Office

Md., Baltimore—Mercantile Trust Co., remodel banking quarters in Continental Bldg. and connect with present quarters; D. K. Este Fisher, Asso. Archt.; Smith & May, Archts.; Herman F. Doelman, Struct. Engrs., all Balto. Trust Bldg. 10-23-30

Tenn., Knoxville—Empire Trust Co., remodel Empire Bldg.

Tex., Corpus Christi—Central Power & Light Co., 110 N. Chaparral St., has low bid from Wood-Sherman Construction Co., Inc., Furman Bldg., for 2-story office bldg., and for alterations to home service bldg.; John M. Marriott, Archt., 503 Frost Natl. Bank Bldg.; Matthews & Kenan, Engrs., 16th floor Smith-Young Tower, both San Antonio. 6-18

#### Churches

Ark., Bentonville—Baptist Church, Rev. D. Keith, Chmn., Bldg. Comm., having plans drawn by Jos. R. Koberling, 569 S. Peoria St., Tulsa, Okla., for \$30,000 church, Sunday school and parsonage, A St.; Gothic type, stone.

D. C., Washington—Tenth St. Baptist Church, Colored, Rev. Alex Willbanks, Pastor, Tenth and R Sts., remodel bldg.; R. C. Archer, Jr., Archt., 1759 U St.; J. Kay, Contr., 719 11th St.

Ga., Atlanta—Calvary Baptist Church, Roswell Rd., Dr. A. N. Adams, Chmn., Bldg. Comm., 3075 Peachtree Rd., erect brick church and Sunday school; stone trim, 2 and 3 stories and basement, conc. foundation, built-up roof, wood floors; N. Sargent Hamilton, Archt., 2 Spring Lake Drive; may erect by day labor.

Ga., Midville—Methodist Church raising funds to complete building.

Md., Baltimore—United Evangelical Church, Rev. F. W. Schaefer, 923 S. East St., plans bldg., Dillon St. and East Ave.; John Freund, 1307 St. Paul St., drawing preliminary sketches; financing.

Mo., Kansas City—St. John's Lutheran Church, Rev. D. L. McConnell, Pastor, has broken ground for bldg., Main St. and 62nd St. Terrace; saw-tooth walls; Ernest O. Brostrom, Archt., 602 Reliance Bldg.

N. C., High Point—First Baptist Church, A. E. Tate, Chmn., Bldg. Comm., 718 W. Broad St., receiving bids, contract to be let Aug. 1, for \$75,000 church and Sunday school; 2 stories and basement, brick, 57 classrooms, auditorium, assembly room. 7-2

S. C., Union—Augsburg Evangelical Lutheran Church, Rev. F. W. Brandt, Pastor, plans bldg.; raising funds.

Tex., Kerrville—First Baptist Church erect \$18,000 Sunday school annex; hollow tile and brick, 46x90 ft.; Harvey Beauchamp, Archt., 3205 Drexel Drive, Dallas; work start in 5 months.

Tex., Kerrville—First Baptist Church, Rev. H. M. Smith, Pastor, plans brick, struct. clay tile and rein. conc. Sunday school; architect not selected.

Tex., San Benito—St. Benedict's R. C. Church erect \$9000 to \$10,000 parish house; brick, 2 stories; Birger A. Elwing, Archt., Harlingen; bids in.

W. Va., Berkeley Springs—Roman Catholic Church, Rev. F. D. Lackey, Pastor, 219 S. Queen St., opens bids Aug. 10 for \$10,000 masonry bldg.; wood frame roof, conc. and steel or tile floors, comp. floors, conc. foundation, cast stone alternate, limestone, tile, slate or asbestos shingle roof, steel sash and trim; T. J. Collins & Son, Archts.-Engrs., Staunton, Va. 7-23

#### City and County

Ark., Monticello—Drew County Bd. of Comms., reported, let contract Aug. 19 for \$150,000 court house, S. Main St.; H. Ray Burks, Archt., Wallace Bldg., Little Rock. 5-28

Ga., Macon—W. A. Stillwell & Sons, Grand Bldg.; Angle-Blackford Co., Hotel Dempsey; T. E. Edwards, R.F.D. No. 2; W. F. Thamess, 460 Carling Ave., all Macon; Donald McIver, Atlanta, additional estimators on Bibb County convict camp; bids Aug. 4 by County Bd. of Comms.; brick, conc. and steel, 2 stories and basement, 84x90 ft., conc. floors and foundation, built-up roof, cast stone, dumb waiters, steel sash and trim; \$30,000; W. Elliott Dunwody, 460 Broadway, and Cecil C. Hays, Asso. Archts., Grand Bldg., Macon. 7-23

La., DeQuincy—Following contractors estimating on \$20,000 remodeling and constr. of city hall, bids Aug. 14 by Town Council: W. J. Quick, 424 Bilbo St.; Knapp & East, Kaufman Bldg.; P. Olivier & Son, 114 Bilbo St.; Geo. Price, 1121 Louisiana Ave., all Lake Charles; R. S. McCook, Archt., First Natl. Bank Bldg., Lake Charles. 7-16

Md., Easton—City Council plans fire station; \$10,000; use part of old primary school; erect addition; stucco exterior; plans by W. D. Brinkloe.

Okla., Oklahoma City—City, L. M. Bush, City Engr., erect \$50,000 club bldg., Fair Park, for 4-H Club.

Okla., Pawnee—Pawnee County Bd. of Comms., having preliminary plans drawn by Tonini & Bramblett, Archts., 416½ W. Main St., Oklahoma City, for \$100,000 brick and stone court house; 3 stories and basement, 85x100 ft.

Okla., Tulsa—City, Earl Logan, City Auditor, select architects at once for \$60,000 colored hospital, 2 fire stations and \$30,000 addition to Juvenile Detention Home.

Tex., Austin—City, P. W. McFadden, Mayor, selected Mrs. Chas. Stephenson, University Station, as chmn. of Library Bd.; \$150,000 bonds available for library. 4-9

Tex., Big Spring—City, Merle Stewart, Sec., having plans drawn by Peters, Strange & Bradshaw, Archts., for \$200,000 city hall, auditorium and fire station bldg.; Spanish type, brick, stone, conc. frame, 2 stories; plans ready about Sept. 1.

Tex., Houston—City erect \$40,000 club house, Hermann Park golf course; Old Texas type architecture; plans by City engineer.

Tenn., Knoxville—City, W. W. Mynatt, Director of Public Service, authorized \$50,000 market, North Knoxville; location not determined.

Tex., Longview—Gregg County Comms., Court called election Aug. 18 on \$850,000 bonds, including \$200,000 for court house and jail.

Tex., Luling—City, Henry G. Stein, Mayor, receives bids on revised plans Aug. 10 for city hall and fire station; 1 and 2 stories, 45x70 ft., conc. frame, face brick, struct. clay tile, cast stone trim, tile roof, conc. floors; Glenn C. Wilson & Richard J. Werner, Archts., Milam Bldg.; Terrell Bartlett, Engr., Smith-Young Tower, all San Antonio. 7-9

Va., Lynchburg—City, R. W. B. Hart, City Mgr., selected design of Johnson & Brannan, Archts., for market and armory, 13th and Church Sts.; Gothic type, 230 ft. long. 7-16

## Dwellings

**Ala., Montevallo**—Dr. Minnie L. Steckel erect frame residence; 1 story, 29x38 ft., tile bath, comp. roof, hot air heat; Miller & Martin, Archts., 911 Tower Bldg., Birmingham.

**D. C., Washington**—Col. J. M. Wright opens bids about July 29 for brick residence, Kalorama Circle, N. W.; stone trim, 2½ stories, tile, terrazzo, hardwood and rubber floors, slate roof, elect. refrigerator, vapor heat, oil or gas burner; Wyeth & Sullivan, Archts., 16 Jackson Place, N. W.; following contractors estimating: Andrew Murray, 729 12th St.; R. W. Bolling, 1 Du Pont Circle; Davis, Wick, Rosengarten Co., 1406 G St.; W. P. Lipscomb Co., 1406 G St.; Skinner & Garrett, 1719 I St., N. W.; Frank L. Wagner, Inc., 10 L St., S. W. 6-11

**D. C., Washington**—John E. McClure erect brick, stone and cinder block residence, Chamberlain Ave., Kenwood, Md.; 2½ stories, slate roof, interior marble, rubber tile, copper work, iron, steel; A. H. Sonnemann, Archt., 2400 16th St.; bids July 28. 7-16

**D. C., Washington**—Francis B. Silsbee, 3749 Oliver St., N. W., has low bid at \$31,000 from Frank Simpson, 6711 Brookville Rd., Chevy Chase, for residence, Coleman Park; Maurice S. May, Archt., 1346 Park Rd. N. W. 7-16

**D. C., Washington**—J. W. Farran, 335 Maryland Ave., N. E., erect residence, 333 Maryland Ave.; B. Stanley Simmons, Archt.; bids in.

**D. C., Washington**—G. S. White, 927 15th St., drawing plans for brick, stucco and half-timber dwelling; 2½ stories, oak floors, slate roof, tile baths, cedar lined closets, elect. refrigerator.

**Fla., Miami Beach**—Louis Morse has low bid at \$17,495 from Rodney Miller, Coral Gables, for residence and garage; John & Coulton Skinner, Archts., LeJeune Rd., Coral Gables. 7-16

**Fla., West Palm Beach**—Vincent Bendix, 705 W. Adams St., Chicago, and West Palm Beach, receive bids about Aug. 5 for \$350,000 residence; Spanish type, fireproof, rein. conc., struct. steel, tile, brick and stucco, ornate, iron, cooling system; Volk & Maass, Archts., Plaza Bldg., Palm Beach.

**Ga., Atlanta**—E. L. Guyol, 332 Ponce de Leon Ave. and 136 Cone St., N. W., has low bid from A. C. Humphreys, 338 W. Hill St., for residence, South Side; brick veneer, conc. foundation, hardwood and tile floors.

**Ga., Atlanta**—Ed Van Winkle, Jr., 413 Norris Bldg., plans \$20,000 residence, Chatham Rd.; 2 stories and basement, 42x50 ft., brick veneer, and tile, conc. foundation, 3 baths, hardwood and tile floors, slate roof, steam heat; R. S. Monday, Archt., Norris Bldg.; owner builds.

**Ga., Atlanta**—J. R. Jordan, 671 Morning-side Drive, erect \$10,000 brick veneer residence, 631 Pelham Rd.

**Ga., Atlanta**—J. C. Oliver, 111 Walton St., has low bid from Capitol Construction Co., Standard Bldg., for residence, Rumson Rd., Garden Hills; Felton Davis, Archt., Walton Bldg. 7-16

**Ga., Augusta**—Mrs. M. C. Harper erect two \$8000 dwellings, 1215 Meigs St. and 1425 Anthony Rd.; frame and stucco, 2 stories, 10 rooms, 2 baths.

**Ga., Sea Island Beach**—Howard Coffin erect Mediterranean type residence, Sea Island Beach; rein. conc., steel, brick, tile and stucco, ornate, iron, metal sash; Francis L. Abreu, Archt., both Brunswick.

**La., New Orleans**—Louis G. Eason, 1801 Rousselain Drive, considers erecting residence, Clover, Lavendar and Clematis Sts.; probably ready to build latter part October.

**La., New Orleans**—Jos. L. Walle, 5410 St. Claude Ave., considers erecting residence, Gentilly Highway, probably latter part of year.

**Md., Baltimore**—Mrs. Maurice Moyer, Edmundson Ave. and Plymouth Rd.; frame duplex, Plymouth Rd.; Fred Keller & Son, 3405 Edmond Ave., advise contract not let. 7-23

**Md., Baltimore**—Pinewood Park Co. erect 4 frame dwellings, 3103-09 Pinewood Ave.; total \$10,000.

**Md., Baltimore**—J. C. Spedden, Archt., 2715 Harlem Ave., soon take bids on 2-story conc. block dwelling, Taylor Ave.

**Miss., Hattiesburg**—H. S. Stevens, McInnis Bldg., erect \$12,000 residence; brick veneer, 1 story, rein. conc. foundation, pine and maple floors, tile work, asbestos shingle roof, steam heat, cedar-lined closets; Juan G. Landry, Archt., Conn Bldg.; ready for bids about Aug. 15.

**N. C., Raleigh**—Wm. I. Proctor, Commercial Bank Bldg., erect brick residence, 2

stories and basement, hardwood floors, steam heat; Nelson & Cooper, Archts., 120½ S. Salisbury St.; bids in.

**N. C., Southern Pines**—Baptist Church erect \$25,000 bldg., Ashe St. and New York Ave.; stone or brick; W. C. Holleyman, Archt., Aberdeen.

**N. C., Wilmington**—Wilmington Star-News, reported, erect Spanish type dwelling, Harbor Island.

**Okla., Tulsa**—John Rogers, Drew Bldg., erect \$16,000 residence; brick veneer, 2 stories and basement, 29x56 ft.; A. M. Atkinson, Archt., Thompson Bldg.; bids in.

**Va., Alexandria**—Miss R. Dunnigan and Miss B. Norton, care Jos. A. Parks, Archt., 1800 E St., Washington, D. C., erect stone, half-timber and stucco bungalow and studio, Aurora Hills near Alexandria; 1½ stories, hardwood floors, tile bath, steel sash, wood shingle roof, hot air heat; bids in.

**Va., Norfolk**—Col. Chas. B. Borland, Director of Public Safety, erect semi-bungalow, Shirland Rd. and Helena St.; frame, 1½ stories, 29x66 ft.; Calrow, Browne & FitzGibbon, Archts., Royster Bldg.; bids in.

## Government and State

**Ala., Albertville**—Prospective estimators on \$62,800 post office, bids Aug. 6 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.: Murphrey Pound, Box 422, Columbus, Ga.; Smallman-MacQueen Construction Co., 1109 Fifth Ave., S.; E. C. Coston Construction Co., 3019 Sixth Ave., S.

**D. T. Underwood**, Pioneer Bldg.; Johnson Construction Co., 512 N. Sixth St., all Birmingham, Ala.; James I. Barnes, Logansport, Ind.; Grahn Construction Co., Red Rock Bldg., Atlanta, Ga.; Samford Bros., Inc., 301 Washington Ave., Montgomery, Ala.; Batson-Cook Co., Inc., West Point, Ga.; Norwood Griffin Co., Bona Allen Bldg., Atlanta; Upchurch Construction Co., Montgomery, Ala.; A. J. Honeycutt Co., Martin Bldg., Birmingham; D. F. Brandon Co., James Bldg., Chattanooga, Tenn.; Geo. A. Rogers Co., Huntsville, Ala.; W. H. Mayben & Son, Gadsden, Ala.; Chambers & Hightower, Athens, Ala.; Theriault Contracting Co., 534 E. Johnson St., Philadelphia, Pa.; Earl E. Garber Co., Bethlehem, Pa.; West Englewood Construction & Supply Co., 6239 S. Ashland Ave., Chicago, Ill. 7-23

**Ala., Attalla**—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate Aug. 14 for post office; Fourth Ave. and Fourth St.; \$70,000; drawings from office Supvg. Archt.

**Ala., Athens**—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected site for \$90,000 post office. 3-26

**Ala., Sylacauga**—Prospective estimators on post office, bids in duplicate Aug. 11 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.: Norwood Griffin Co., Bona Allen Bldg.; Grahn Construction Co., Red Rock Bldg., both Atlanta, Ga.; Upchurch Construction Co.; Samford Bros., Inc., 301 Washington Ave., both Montgomery, Ala.; D. T. Underwood Co., Pioneer Bldg.; Johnson Construction Co., 512 N. Sixth St.; Coston Construction Co., 3019 Sixth Ave., S.

**S. Adamson, Boylston & White, Inc.**, 1106 First Ave., N., all Birmingham, Ala.; Earl E. Garber Co., Bethlehem, Pa.; C. A. Hofferberth Construction Co., Dist. Natl. Bank Bldg., Washington, D. C.; James I. Barnes, Logansport, Ind.; Theriault Contracting Co., 534 E. Johnson St., Philadelphia, Pa. 7-23

**Ark., Little Rock**—Prospective estimators on \$1,435,000 Federal bldg., bids Aug. 17 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.: James I. Barnes, Logansport, Ind.; W. F. Ault, Moore & Turner Bldg.; McGregor & Pickett, Gem Bldg.; Stewart-McGehee Construction Co., Rector Bldg.; Gordon Walker, Pyramid Life Bldg.; Wm. Peterson, Donaghay Bldg., all Little Rock; Algernon Blair, First Natl. Bank Bldg., Montgomery, Ala.; Southern Ferro Concrete Co., Atlanta Trust Bldg., Atlanta, Ga.; Theriault Contracting Co., 534 E. Johnson St., Philadelphia, Pa.; John Erskine Construction Co., 33 N. La Salle St., Chicago, Ill. 7-23

**Ark., Stuttgart**—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate Aug. 17 for post office; drawings from office Supvg. Archt. 6-18

**D. C., Washington**—Additional prospective estimators on \$965,000 Public Health Service Bldg., bids Aug. 3 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt.: General Constr.—S. & W. Construction Co., Shrine Bldg., Memphis, Tenn.; F. W. Mark Construction Co., Inc., Commercial Trust Bldg.; Wark Co., 1608 Walnut St., both Philadelphia, Pa.; Lovering-Longbottom Co., 116 N. Fourth Ave., Ann Arbor, Mich.; Adams Construction Co., Woodruff Bldg.; Boyle-Robert-

son, Inc., Evans Bldg., both Washington; Ross-Republie Marble Corp., Island Home Park, Knoxville, Tenn.; W. P. Thurston Co., Inc., 301 S. Fourth St., Richmond, Va.; Lacchi Construction Co., Munsey Bldg., Baltimore, Md.; S. M. Siesel Co., Flannery Bldg., Pittsburgh, Pa.; Ed. S. Moore & Son, 610 N. Washington St., Kokomo, Ind.; Elevators—Warsaw Elevator Co., Mercer and Grant Sts., Baltimore, Md.; Atlantic Elevator Co., Erie Ave. and D St., Philadelphia, Pa.; Westbrook Elevator Manufacturing Co., Danville, Va. 7-23

**D. C., Washington**—Committee composed of Bd. of Regents, Secretary and Asst. Secretary of Smithsonian Institution developing plans to enlarge National Museum; \$6,500,000 appropriation authorized but not yet available; 2 new wings to extend from Twelfth to Ninth St.; Chas. G. Abbot, Secretary.

**D. C., Washington**—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids Aug. 27 for moving constructing engineers' bldg. and Aug. 21 for clearing site for \$8,750,000 U. S. Archives Bldg., Pennsylvania Ave., L, Seventh and Ninth Sts.; structure fireproof, stone, 7 stories; John Russell Pope, Archt., 542 Fifth Ave.; H. G. Balcom, Engr., 10 E. 47th St.; Clyde R. Place, Mech. Engr., 420 Lexington Ave., all New York. 5-14

**Fla., Fort Myers**—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected site for \$200,000 post office.

**Fla., Miami**—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., has low bid at \$35,985 from Algernon Blair, First Natl. Bank Bldg., Montgomery, Ala., for excavation and foundation work for \$1,641,000 Federal bldg.; Phineas E. Paist & Harold D. Stewart, Archts.; L. Murry Dixon, Asso. Archt., all Ingraham Bldg., Miami, and Ponce de Leon Entrance Bldg., Coral Gables; Maurie H. Connell, Mech. Engr., McAllister Bldg., Miami; Harvey Baxter, Struct. Engr., 518 Harding St., Coconut Grove, Miami. 7-16

**Ga., Dalton**—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate Aug. 18 for remodeling and enlarging post office; drawings from office Supvg. Archt.

**Ga., Eatonton**—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., has low bid at \$32,986 from Grahn Construction Co., Red Rock Bldg., Atlanta, for post office. 7-23

**Ga., Lyons**—State Legislative Prison Farm Purchase Comm. selected 6200-acre tract, Tattnall County, as site for prison farm; \$100,000.

**Ky., Barbourville**—Prospective estimators on post office, bids Aug. 6 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.: James I. Barnes, Logansport, Ind.; Grahn Construction Co., Red Rock Bldg., Atlanta, Ga.; Samford Bros., Inc., 301 Washington Ave., Montgomery, Ala. 7-16

**Ky., Murray**—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., has low bid at \$68,360 from Kellogg & Anderson, Sedalia, Mo., for post office. 7-16

**Md., Baltimore**—State Bd. of Welfare, Stuart S. Janney, Chmn., considers replacing wood window frames and sashes with steel casements, electrically operated, Penitentiary.

**Md., Fort George G. Meade**—Constructing Quartermaster, Capt. H. N. Williams, advises bids for additional officers' quarters and non-commissioned officers' quarters will not be opened Aug. 5 as lately reported; no funds available. (Report 7-23 incorrect)

**Md., Jessups**—State Bd. of Welfare, Stuart S. Janney, Chmn., Baltimore, plans to remodel and enlarge dining hall; seat 600 additional; erect dairy and tobacco barn; no contracts for two latter; Henry G. Perrin, Court Sq. Bldg., Baltimore, Archt.-Engr. for dining hall. 7-9

**Mo., Centralia**—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate Aug. 13 for post office; drawings from office Supvg. Archt. 12-4

**Mo., Farmington**—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., has low bid at \$65,450 from McCarthy Bros. Construction Co., 4908 Delmar Blvd., St. Louis, Mo., for post office. 7-16

**N. C., Danbury**—State Highway Comsn., Raleigh, construct prison camp, Danbury-Piedmont Springs Rd., Stokes County.

**N. C., Durham**—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected site, E. Chapel Hill St. and Rigsbee Ave., for \$550,000 Federal building. 3-26

## CONSTRUCTION DEPARTMENT

## Manufacturers Record

N. C., Marion—State Highway Comsn., Raleigh, E. B. Jeffress, Chmn., construct \$50,000 prison camp, McDowell County; brick and conc. bldgs. to accommodate 400 to 500; other bldgs. frame; light, water and sewerage systems.

N. C., Mount Airy—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected site, S. Main St., for post office. 7-26

N. C., Raleigh—Prison Advisory Comsn., Nathan O'Berry, State Treas., member, selected Wm. H. Deitrick, Professional Bldg., Raleigh, as architect for \$250,000 central prison at Camp Polk farm; accommodate 600 to 700. 7-2

Oklahoma—State Bd. of Public Affairs, W. C. Hughes, Chmn., may erect sub-penitentiary in southeastern Oklahoma.

Oklahoma, Ada—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected site for Federal building.

Oklahoma, Dover—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected site for Federal building.

Oklahoma, Duncan—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected site for Federal building.

Oklahoma, Prior—State Bd. of Public Affairs, W. C. Hughes, Chmn., Oklahoma City, has low bid at \$22,499 from Irving Williams, 315 E. 18th St., Tulsa, for bldg., Whitaker Orphans' Home.

Oklahoma, Stillwater—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected site, Eighth Ave. and Husband St., for \$135,000 post office.

Oklahoma, Taft—State Bd. of Public Affairs, W. C. Hughes, Chmn., Oklahoma City, has low bid at \$32,700 from Cowen Construction Co. for 3 bldgs. at institution for colored.

S. C., Cheraw—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected site for Federal building.

Tex., Beaumont—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected site, Willow St., for \$650,000 Federal building. 3-26

Tex., Big Spring—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected site for Federal building.

Tex., Brownsville—Prospective estimators on \$400,000 post office, bids Aug. 14 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.: Newport Contracting and Engineering Co., Inc., Lee Hall, Va.; Samford Bros., Inc., 301 Washington Ave.; Algernon Blair, First Natl. Bk. Bldg., both Montgomery, Ala.; Murch Bros. Construction Co., Rwy. Exch. Bldg.; Wm. MacDonald Construction Co., Syndicate Trust Bldg., both St. Louis, Mo.; R. P. Farnsworth & Co., Inc., Maritime Bldg., New Orleans, La.; A. J. Rife Construction Co., 1913 N. Harwood St.; Nathan Wohlfeld, Construction Bldg., both Dallas, Tex.; Robert E. McKee, 1918 E. Texas St., El Paso, Tex.; James I. Barnes, Logansport, Ind.; Chas. Weitz Sons, 713 Mulberry St., Des Moines, Iowa; John Erskine Construction Co., 33 LaSalle St., Chicago, Ill. 7-23

Tex., Crockett—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate Aug. 17 for \$85,000 post office, etc.; drawings from office Supvg. Archt. 7-2

Tex., Sugarland—Texas Prison System, W. A. Paddock, Chmn., Austin, receives bids until Aug. 12 for bldrs. hardware, millwork, elevators, packing plant machinery, laundry machinery, dairy machinery, kitchen equipment, for new unit, Central State Farm near Sugarland; Giesecke & Harris, Archts., Norwood Bldg., Austin; Dr. F. E. Giesecke, Consultant, College Station; Lloyd D. Royer, Const. Mech. Engr., 911 Smith-Young Tower, San Antonio.

Tex., Texas City—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., drawing plans for \$80,000 post office; brick, struct. clay tile, struct. steel, rein. conc. 2 stories. 7-2

Va., Langley Field, Hampton—Constructing Quartermaster, Fort Monroe, Va., receives bids Aug. 14 (extended date) for \$100,000 heating plant, 38x63 ft., with pipe lines to barracks, and other buildings. 7-23

Va., Langley Field, Hampton—Constructing Quartermaster, Fort Monroe, Va., has low bid at \$32,842 from Jewell-Riddle Co., Inc., Sanford, N. C., for non-commissioned officers' service club; low bid at \$32,653 from Smallman & MacQueen Construction Co. for photographic laboratory, both Langley Field. 7-2

Va., Martinsville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., probably start work in 60 days on remodeling and enlarging post office. 6-11

Va., Richmond—State Prison Bd. has permit to fireproof Factory No. 3, State Penitentiary; \$30,000; constr. under supervision of Board.

## Hospitals, Sanitariums, Etc.

Ky., Frankfort—State Bd. of Charities and Corrections, J. C. Bird, Commr. of Public Institutions, plans to purchase old Shaker town property, Lexington-Harrodsburg Rd., for epileptic colony; 8 bldgs. on site; about \$75,000 would be expended for power, heating and water systems and plaster and conc. work; equipment extra; Board also plans to purchase site for prison farm.

Mo., Springfield—Burke Hospital, 1323 N. Jefferson Ave., H. Pierce, Chmn. of Bd., Holand Bldg., having plans drawn by Hawkins & Nichols, Archts., McDaniel Bldg., for \$150,000 addition; rein. conc. and brick, 4 stories and basement. 4-23

N. C., Oteen—Prospective estimators on boiler house and conc. chimney, U. S. Veterans Hospital, bids Aug. 11 by U. S. Veterans Bureau, Room 764, Arlington Bldg., Washington, D. C.: Rust Engineering Co. (chimney), Kopfers Bldg., Pittsburgh, Pa.; C. O. Riddle (plumbing and heating), Johnson City, Tenn.; J. L. Powers (plumbing and heating), 227 E. Main St., Bennettsville, S. C.; Murray Iron Works Co. (boiler), Burlington, Iowa; Erie City Iron Works (boiler), Erie, Pa.; Batson-Cook Co., Inc., West Point, Ga.; Paul Wright & Co. (boiler), Birmingham, Ala.; Goode Construction Co., P. O. Box 1266; Harrison-Wright Co., P. O. Box 928; Tucker & Laxton, Inc., 900 Independence Bldg.; Southeastern Construction Co., 210 W. Second St., all Charlotte, N. C.; Grahan Construction Co., Red Rock Bldg., Atlanta, Ga.; Tucker & Sikes, Inc., Monroe, N. C.; W. C. Spratt, Fredericksburg, Va.; North-Eastern Construction Co., 812 Nissen Bldg., Winston-Salem, N. C.; John V. Boland Construction Co. (chim.), Chemical Bldg.; Geo. Griffiths Construction Co., 1123 Arcade Bldg., both St. Louis, Mo.; J. J. Nolan Co., Inc., 301 Washington Ave., Montgomery, Ala.; Young Electric Works (elec.), 857 Reynolds St., Augusta, Ga.; Weber Chimney Co. (chim.), 332 S. Michigan Ave., Chicago, Ill.; Freyn Bros. of Michigan, Inc. (p. and h.), 3850 Michigan Ave., Detroit, Mich.; Morton McL. Dukehart & Co. (boil.), Whittaker Bldg., Baltimore, Md.; Fiske-Carter Construction Co., Spartanburg, S. C.; Geo. W. Kane, 228 Jefferson Standard Bldg.; J. L. Crouse, P. O. Box 642; Angle-Blackford Co., Amer. Bk. Bldg., all Greensboro, N. C.; Jewell-Riddle Co., Inc., Sanford, N. C.; Gallivan Construction Co., 101 Gallivan Bldg., Greenville, S. C.; Morganton Hardware Co., Morganton, N. C.; Warner Service Co. (elec.), Knoxville, Tenn.; Chas. E. Mumford (p. and h.), Fairmont, W. Va.; John W. Geary Co.; United Electric Co. (elec.), 1 Aston St., both Asheville, N. C.; G. M. Guest & Sons, Sharpe St., Anderson, N. C.; Big Standard Construction Corp. (chim.), Frostburg, Md.; Continental Contracting Co. (boil.), 601 Arlington Hotel, Washington, D. C.; Bryce Plumbing & Heating Co. (p. and h.), Florence, S. C.; James I. Barnes, Springfield, O.; R. S. Pruitt, rep., C. M. Guest & Son, Box 1656, University, Va.; Theriault Contracting Co., 354 E. Johnson St., Philadelphia, Pa.; W. P. Thurston Co., Inc., 301 So. Fourth St., Richmond, Va. 7-16

Oklahoma, Alva—City, I. W. Kelch, Clk., soon select architect for \$50,000 hospital; brick, 2 stories and basement.

Oklahoma, Clinton—State Bd. of Public Affairs, W. C. Hughes, Chmn., Oklahoma City, has low bid at \$73,460 from Tankersley Construction Co., Cotton-Grain Exch. Bldg., Oklahoma City and Tulsa, for ward bldg., State Tuberculosis Sanatorium; Layton, Hicks & Forsyth, Archts., Braniff Bldg., Oklahoma City. 7-23

Oklahoma, Vinita—State Bd. of Public Affairs, W. C. Hughes, Chmn., has low bid at \$92,000 from Bailey & Burns, for additions to Hope Hall, Central State Hospital; Layton, Hicks & Forsyth, Archts., Braniff Bldg., all Oklahoma City. 7-23

Oklahoma, Supply—State Bd. of Public Affairs, W. C. Hughes, Chmn., Oklahoma City, has low bid at \$146,140 from Dunning Construction Co., 420½ N. Hudson St., for bldgs., Western State Hospital for Insane; Layton, Hicks & Forsyth, Archts., Braniff Bldg., all Oklahoma City. 7-16

Oklahoma, Talihina—State Bd. of Public Affairs, W. C. Hughes, Chmn., has low bid at \$75,900 from Bailey & Burns, for ward bldg., Eastern State Tuberculosis Sanatorium; Layton, Hicks & Forsyth, Archts., Braniff Bldg., all Oklahoma City. 7-23

Oklahoma, Vinita—State Bd. of Public Affairs, W. C. Hughes, Chmn., Oklahoma City, has low bid at \$113,983 from Manhattan Construction Co., Court Arcade Bldg., Tulsa, for hospital bldg., Eastern Oklahoma Hospital for Insane; Layton, Hicks & Forsyth, Archts., Braniff Bldg., Oklahoma City. 7-16

Tex., Alice—Dr. G. G. Wyche, Robstown, erect 1-story stucco hospital, Wright and Fourth Sts.; about 16 patients' rooms.

## Hotels and Apartments

Fla., Miami Beach—D. W. Simmons, Detroit, Mich., having plans prepared by Carlos B. Schoeppl, 2382 N. Alton Road, Miami, for \$12,000 apartment, Collins Ave. between 8th and 9th Sts.

Fla., Miami Beach—G. Gager, care Carlos B. Schoeppl, Archt., 2382 N. Alton Road, Miami, plans \$12,000 apartment on West Ave. between 6th and 7th Sts. 12-25

Md., Baltimore—Greenway Apartment Co., J. I. Goldstein, Pres., Calvert Bldg., selected Palmer & Lamdin, 513 N. Charles St., to prepare plans for 9-story brick apartment, Charles and Bishop's Road. 12-25

Tex., Belton—Chamber of Commerce promoting erection of hotel.

Tex., San Antonio—Mrs. Amelia Fischer, 832 W. Craig St., having plans prepared by Wax Sandfield, 939 Milam Bldg., and ready for bids about July 30 for 2-story, struc. clay tile triplex, Barilla Place; tile roof, hardwood floors; W. E. Simpson Co., Engr., 942 Milam Bldg.; address Archt.

Va., Lynchburg—Acree & Peck, Inc., Lynch Bldg., considering erecting apartment house, Court and Seventh Sts.

## Miscellaneous

Fla., Hialeah—Miami Jockey Club, Frank L. Bruen, Mgr.-Dir., 5632 Sheridan Ave., Miami Beach, receives bids Aug. 3 for additions and improvements to clubhouse at Hialeah Park racing track; Smith & Riddle, Inc., Supervising Engrs., 210 Royal Palm Way; L. W. Geisler, Archt., 19 Via Parigi, both Palm Beach; following contractors estimating: Deigaard Builders, 2975 S. W. 8th St.; Fred Howland, 1600 N. W. 14th St.; St. John Construction Co., 629 N. W. 7th St.; Sandquist Construction Co., N. W. 27th Ave.; Everglades Construction Co., 832 N. W. 12th Court St.; J. Y. Gooch & Co., Bedford Bldg.; Halsema Brothers, 1400 N. Miami Ave.; Geo. W. Langford Co., McAllister Hotel Bldg.; John B. Orr, Inc., N. E. Sixth St., all Miami; Rodney Miller, Alhambra Circle, Coral Gables. 7-23

La., Shreveport—Kalmbach-Burkett Co., Inc., 1200 Dalzell St., let contract to H. G. Hodges for one-story, 46x200 ft., brick veneer building on Southern Ave.; Seymour Van Os, Archt., both City Bank Bldg.

Tenn., Chattanooga—S. & W. Cafeteria, Frank O. Sherrill, 1115 Johnson Bldg., Charlotte, N. C., remodel building, 823-25 Market St., for cafeteria.

## Railways Stations, Sheds, Etc.

Ala., Birmingham—Atlanta, Birmingham & Coast Ry. Co., L. L. Beall, Ch. Engr., Atlanta, Ga., petitioned Alabama Public Service Comsn. for permit to build passenger station at Elyton.

## Schools

D. C., Washington—District Comms., Roland M. Brennan, Ch. Clk., Engr. Dept., District Bldg., have low bid from Herzog Construction Co., 10 S. 18th St., Philadelphia, Pa., for \$134,000 Phoebe Hearst School; A. L. Harris, Municipal Archt. 7-16

D. C., Washington—Following contractors estimating on \$200,000, 10-classroom and gymnasium addition to Macfarland Jr. High School, bids Aug. 6 by District Comms., Roland M. Brennan, Ch. Clk., Engr. Dept., District Bldg.; Chas. Shutrump & Sons Co., 1900 Euclid Ave., Cleveland, Ohio; Lee Paschal, Amer. Natl. Bank Bldg., Richmond, Va.; Lacchi Construction Co., Munsey Bldg.; North-Eastern Construction Co., 6 W. Madison St., both Baltimore; T. T. Taylor, Commercial Natl. Bank Bldg.; Geo. E. Wyne, 2539 Pennsylvania Ave., N. W.; H. W. Cord Co., 1003 K St.; Adams Construction Co., Woodward Bldg.; C. A. Hooperberth Construction Co., Second and M Sts., S. W.; De Sibour Construction Co., 2009 R St., N. W.; Graham Construction Co., Washington Bldg., all Washington; Lewis L. Moor & Sons, Inc., Baltimore; A. Lloyd Goode, Inc., Charlotte, N. C.; Chas. S. Bennett, Inc., 47th St. and Springfield Ave.; Ralph S. Herzog, 10 S. 18th St., both Philadelphia; A. L. Harris, Municipal Archt. 7-23

D. C., Washington—Following contractors estimating on gymnasium at Randall Jr. High School, bids Aug. 4 by District Comms., Roland M. Brennan, Ch. Clk., Engr. Dept., District Bldg.; Industrial Engineering & Contracting Co., Box 1912; T. T. Taylor, Commercial Natl. Bank Bldg.; Geo. E. Wyne, 2539 Pennsylvania Ave., N. W.; H. W. Cord Co., 1003 K St., all Washington; J. H. Coleman & Son, Clarendon, Va.; Lacchi Construction Co., Munsey Bldg.; North-Eastern Construction Co., 6 W. Madison St., both Baltimore; A. L. Harris, Municipal Archt. 7-23

**Fla., Tallahassee**—State Bd. of Control, P. K. Yonge, Chmn., George Washington Hotel, Jacksonville, receives bids Aug. 10 for \$50,000, one and two-story and basement, 78x137 ft., rein. conc., steel and brick training school for A. & M. College for Negroes; cast stone trim, slate roof; plans by Rudolph Weaver, Board Archt., Peabody Hall, Gainesville. 7-23

**Fla., Warrington**—Escambia County Bd. of Public Instruction, Wm. Tyler, Supt., Pensacola, soon call for bids for school at Warrington; also plans addition to other rural schools.

**Ga., Athens**—University of Georgia, Chas. M. Snelling, Chancellor, ready for bids about Aug. 15 for \$150,000, 3-story, brick and tile, stone trim Brown Memorial Dormitory and \$80,000, 2-story and basement, rein. conc., struc. steel, brick and tile Hirsch Law Bldg.; Hentz, Adler & Shutze, Archts., 1330 Candler Bldg.; Robert S. Fiske, Engr., 1421 Healey Bldg., both Atlanta. 4-30 and 7-16

**Ga., Carrollton**—City, J. L. Thomason, Clk., rejected bids, having plans revised and soon call for new bids for school for negroes; plans by Julius Rosenwald Fund, 12 Capitol Square, Atlanta, donors.

**Ga., Dalton**—Valley Point Consolidated School Dist. votes Aug. 21 on \$25,000 bonds for school building on Dixie Highway, 6 miles from Dalton.

**La., Bordelonville**—See La., Marksville.

**La., Delcambre**—Following contractors estimating on 2-story, brick, 13-classroom and library high school, bids Aug. 14 by Iberia Parish School Bd., L. G. Porter, Sec., New Iberia: C. J. Montgomery, Kaplan; E. E. Rabalais & Son, Bunkie; J. A. Petty & Sons, Inc., Audubon Bldg.; Wm. Wallace, Pere Marquette Bldg., both New Orleans; J. B. Mouton, Lafayette; W. J. Quick, 424 Bilbo St.; L. W. Eaton, both Lake Charles; E. P. Putnam, Abbeville; X. F. Herpeche, New Iberia; Tudor & Ratcliff, Commercial Bank Bldg., Alexandria. 7-16

**La., Evergreen**—See La., Marksville.

**La., Farmerville**—Union Parish School Bd. receives bids Aug. 17 for one-story, 48x50 ft., brick administration building; asbestos roof, 5 rooms; J. W. Smith & Associates, Archts., Ouachita Natl. Bk. Bldg., Monroe.

**La., Houma**—Following contractors estimating on 2-story, rein. conc., brick, stone trim elementary school, bids Aug. 4 by Terrebonne Parish School Bd.: E. E. Rabalais & Son, Bunkie; J. M. DeFraites, Inc., 612 State St.; Chas. Gilbert Construction Co., Am. Bk. Bldg.; J. A. Petty & Sons, Inc., Audubon Bldg.; T. A. Pittman, Inc., Canal Bank Bldg.; Reilly-Ruckstuhl, Inc., 423 Carondelet Bldg., all New Orleans; W. J. Quick, 424 Bilbo St., Lake Charles; G. L. Whitaker & Son, Plaquemine; A. C. Stewart, 810 E. Blvd.; L. W. Eaton, 1601 N. Blvd., both Baton Rouge; Tudor & Ratcliff, Commercial Bank Bldg., Alexandria; Julius Dupont, Houma; A. LeBlanc & Son, Bogalusa; Wm. T. Nolan, Archt., Canal Bank Bldg., New Orleans. 7-9

**La., Marksville**—Avoyelles Parish School Bd. receives bids Aug. 6 for \$40,000 school in Evergreen School Dist. No. 13; \$30,000 school in Bordelonville School Dist. No. 9; \$15,000 school in Dupont School Dist. No. 14; Wm. T. Nolan, Archt., Canal Bank Bldg., New Orleans; following contractors estimating: E. E. Rabalais & Son, Bunkie; J. B. Mouton, Lafayette; W. J. Quick, 424 Bilbo St., Lake Charles; C. G. Kershaw Contracting Co.; Tudor & Ratcliff, Commercial Bank Bldg., both Alexandria; O. K. Bozeman, Baton Rouge, bidding on Evergreen school only. 6-4

**Md., Annapolis**—Anne Arundel County School Comms., George Fox, Sec.-Treas., ready for bids about Aug. 5 for 2-story, 4-classroom, brick school at Jacobsville, 2-story, 4-classroom, assembly hall and cafeteria, brick school at Oldton; one-story, 2-classroom, frame school at Owensville; W. H. Emory, Jr., Baltimore Trust Bldg., and Buckler & Fenhaven, 325 N. Charles St., both Baltimore, Asso. Archts.

**Md., Baltimore**—Bd. of Awards has low bid at \$10,888 from Geo. H. Schaffer, 4017 Falls Road, for alterations to administration building, Carrollton and Lafayette Aves.; also has low bid at \$1873 from Avon Construction Co., 216 E. Lexington St., for 2 fire escapes at School No. 221. 7-16

**Md., Baltimore**—Bd. of Public Improvement Coms., H. J. Leimbach, Supvg. Engr., City Hall, receives bids Aug. 12 for conc. work, cinder fill and planting at Gardenville, Govans, Violetville schools and Polytechnic.

**Md., Bel Air**—Harford County School Comms. receive bids Aug. 3 for \$60,000, 2-story brick high school; John B. Hamm, Archt., York, Pa. 7-2

**Miss., Louise**—Humphreys County Bd. of Comms. receive bids Aug. 3 for \$60,000, 2-for dormitory at Louise Training School; plans at office T. D. Rice, County Supt. of Education, Belzoni. 1-22

**Miss., Laurel**—Myrick Consolidated School Dist. Trustees receive bids Aug. 11 at office Jones County Supt. of Education for grammar school and remodeling existing structure; L. W. Dufee, Archt., O'Ferrall Bldg.

**Miss., Sturgis**—Sturgis Consolidated School Dist. Bd. of Trustees, D. B. Horton, Sec., has low bid at \$24,700 from W. C. Stout, Jackson, for 4-story, brick, stone trim school; 14 classrooms, auditorium and study hall; comp. roof, cast and natural stone trim, wood floors, vapor heat; Frank P. Gates Co., Archts., New Merchants Bank Bldg., Jackson. 7-16

**N. C., Charlotte**—School Bd., Charles Blackburn, will apply to State Literary Fund, Raleigh, for loan of \$50,000 for erection of Myers St. Negro School.

**Okla., Chandler**—Bd. of Education has plans by J. I. Davis, First Natl. Bldg., Oklahoma City, for one-story, 70x100 ft., brick gymnasium.

**Okla., Enid**—State Bd. of Affairs, W. C. Hughes, Chmn., Oklahoma City, has low bid at \$74,500 from McMillan Construction Co., Enid, for ward buildings for School for Feeble-minded.

**Okla., Pauls Valley**—State Bd. of Affairs, W. C. Hughes, Chmn., Oklahoma City, has low bid at \$33,320 from Barbourshort Construction Co., Oklahoma City, for dormitory at Boys' Training School.

**Okla., Sulphur**—State Bd. of Affairs, W. C. Hughes, Chmn., Oklahoma City, has low bid at \$82,700 from W. L. Scott, Sulphur, for brick, rein. conc. and stone industrial building at Oklahoma School for Deaf; Layton, Hicks & Forsythe, Archts., Braniff Bldg., Oklahoma City. 7-23

**Tenn., Cookeville**—City and Putnam County Bd. of Education erect \$100,000 Central High School north of Cookeville; Marr & Holman, Archts., Stahlman Bldg., Nashville. 5-28

**Tenn., Elizabethhton**—Carter County Court called election for Sept. on \$65,000 school building and repair bonds.

**Tenn., Knoxville**—University of Tennessee, Dr. H. A. Morgan, Pres., approved plans by Barber & McMurry, General Bldg., for \$300,000, 2-story auditorium-gymnasium, \$150,000 administration building, for which old library will be remodeled, and \$150,000 biology building. 7-24-30

**Tenn., Knoxville**—Knox County Bd. of Education, W. W. Morris, Supt., receives bids Aug. 6 for 20-room and auditorium Central High School; Baumann & Baumann, Archts., 815 Market St. 4-16

**Tex., Brownsville**—Brownsville Ind. Dist. School Bd., J. C. Mather, Sec., erect 6-room, brick and rein. conc. elementary school; F. H. Trimble, Archt.; bids in. 7-16

**Tex., Galveston**—School Bd., John Neethe, Pres., soon call for bids for \$200,000 West End negro school, 35th and N Sts.; 2 stories, brick and conc., 32 classrooms, administration rooms, auditorium and cafeteria; Mark Lemmon, Archt., Construction Bldg., Dallas. 7-16

**Tex., Karnes**—Yates Creek School Dist. voted \$10,000 school building bonds; address Karnes County Bd. of Education.

**Tex., Palestine**—City votes Aug. 24 on \$20,000 school, public improvement and athletic field bonds; address School Bd.

**Tex., San Marcos**—San Marcos Ind. School Dist. ready for bids in about 6 to 8 weeks for \$200,000, 30-classroom combination high and elementary school; fireproof; auditorium to accommodate 1000 people; ramps will be used instead of stairs; Harvey P. Smith, Archt., Natl. Bank of Commerce Bldg., San Antonio. 6-4

**Va., Fairfax**—Fairfax County School Bd. rejected bids for 4-classroom and auditorium school; plans are being revised by Raymond V. Long, State Supervisor of School Buildings, Richmond; call for new bids in about 10 days.

**Va., Richmond**—School Bd., Albert H. Hill, Supt. of Schools, plans to request City Council for \$375,000 for erection of elementary school, Floyd Ave. and Nansemond St.

## BUILDING CONTRACTS AWARDED

### Association and Fraternal

**Mo., St. Louis**—Moolah Temple, Judge John W. Calhoun, Chmn., Bldg. Comm., 3523 Longfellow Blvd., let contract to Humes-Deal Co., Arcade Bldg., to alter and erect additions to bldg.; 21 ft. on each side, 2 stories

### Stores

**Ala., Anniston**—W. T. Grant Co., P. A. Gunnus, Archt., both 1441 Broadway, New York, ready for bids in few days for alterations and additions to store; one story and basement, struc. steel, brick, hollow tile; hardwood and asphalt tile floors; B. F. Camp & Son, Rome, Ga., and Duke-Stickney Construction Co., Liles Bldg., Anniston, estimating.

**D. C., Washington**—Jos. D. Gatti, 4200 16th St., N. W., erect 3 stores, Third and Kennedy Sts., N. W.; one story, brick, slag roof, gas-fired heat; Martin Bros., 1341 Connecticut Ave., estimating.

**Fla., West Palm Beach**—Yanban Realty Corp., 817 Harvey Bldg., Joseph Spitzer, Mgr., 307 First St., erect rein. conc. and conc. block store and warehouse, 303-15 First St.; A. Schwartz, Archt.-Constr. Engr., 624 Iris St.

**Ga., Atlanta**—S. H. Kress & Co., 114 Fifth Ave., New York, receive bids Aug. 12 at 43 Whitehall St., S. W., Atlanta, for 1-story and basement and mezzanine, 233x49 ft., rein. conc., struc. steel, brick and hollow tile, terra cotta trim store, 1012-14 N. E. Peachtree St.; marble work, orna. iron and steel, metal; cement and hardwood floors, Barrett or equal built-up roof, Otis elevator, dumb waiter, Crane plumbing fixtures, steam heat; plans by Edw. F. Sibert, Archt., 114 Fifth Ave., New York; following contractors estimating: Geo. A. Clayton, Bona Allen Bldg.; Griffin Construction Co., 452 Spring St., N. W.; Pittman Construction Co., Rhodes Bldg.; The Flagler Co.; Grahn Construction Co., both Red Rock Bldg.; Norwood Griffin, Bona Allen Bldg.; T. C. Wesley & Son, Red Rock Bldg.; Brazell, Miller & Newbanks, Norris Bldg.; A. K. Adams Co., 542 Plum St., N. W., all Atlanta; G. A. Miller, Inc., 312½ Twigg St., Tampa, Fla.; Bower Construction Co., Baton Rouge, La.; V. L. Nicholson Co., 102 W. Clinch St., Knoxville, Tenn. 6-4

**Md., Baltimore**—John Dernoga, 2236 Sidney Ave., has low bid from Fred Keller & Son, 3405 Echolake Ave., for 2-story, brick store and apartment, 2215 Annapolis Ave.; F. Edw. Tormey, Jr., Archt., 2 E. Lexington St.

**Md., Baltimore**—Hutzler Bros. ready for bids about Aug. 15 for 6-story and basement, brick, stone trim addition on Howard St.; plans by Office of Jos. Evans Sperry, Calvert Bldg.; Herman Doeelman, Struc. Engr.; both Baltimore Trust Bldg.

**N. C., Wilmington**—E. E. Clark and M. C. Sprinkle plan erection of business building on Highway No. 10.

**Tenn., Knoxville**—R. T. Clapp Co., 412 W. Magnolia St., purchased one-story, 90x200 ft. brick building, Broadway and Magnolia Ave., and remodel for wholesale and service store; install sprinkler system, steam heating plant, provide shower baths, steel lockers for employees.

### Theatres

**Fla., Daytona Beach**—Royal Palm Drama Guild, Albert Diem, 219 Oakridge Blvd., has low bid at \$14,789 from Jesse L. Pratt, 710 Goodall Ave., for theater, Butler Blvd. at N. Peninsula Drive; Harry M. Griffin, Archt., 309 N. Grandview Ave. 7-2

**Ga., Statesboro**—Ernest Collins, Vidalia and Statesboro, purchased 2 stores and remodel for theater; P. G. Walker, in charge.

**Mo., St. Louis**—S. R. Wilson, care G. R. Bartling, Inc., Archts., 802 Paul Brown Bldg., reported, having sketches prepared for \$300,000, 3-story and basement, 100x150 ft., brick, stone and steel theater, store, office, 911 N. Vandeventer Ave.

### Warehouses

**D. C., Washington**—Joseph Fishman, 523 Randolph St., N. W., erect warehouse, 432 Eleventh St., S. W.; 2 stories, 35x100 ft., brick; A. S. J. Atkinson, Archt., 3801 Macomb St.; bids in Aug. 1.

**Md., Baltimore**—M. Shavitz & Son, 816 S. Charles St., erect 2-story, brick, furniture warehouse; A. C. Rattziewski, Archt., 425 Ellwood Ave.

**Tenn., Greeneville**—R. J. Reynolds Tobacco Co., Winston-Salem, N. C., erect warehouse; 35,000 sq. ft. floor space.

and basement, ventilating system; remodel basement: \$100,000; Aegeirter & Bailey, Archts., Ry. Exch. Bldg. 7-23

**Tex., Fort Worth**—Following have contracts for materials for \$1,000,000 Masonic Temple: Hollow bldg. tile, Acme Brick Co., N. P. Anderson Bldg.; ready mixed conc.,

**Fort Worth Sand & Gravel Co., Inc.**, Electric Bldg.; excavation, T. T. Thompson, D. Waggoner Bldg.; glass and glazing, Pittsburgh Plate Glass Co., 321 S. Main St.; hand power elevator, Otis Elevator Co., 808 Taylor St.; reinforcing, North Texas Iron & Steel Co., 1401 N. Adams St.; rubber tile, Wm. Cameron & Co. Inc., 830 Taylor St.; asphalt tile flooring, W. J. McCandless, Capps Bldg.; Ingalls Stone Co. stone through J. B. Huffman, 1201 Pharr St.; struct. steel, Fort Worth Structural Steel Co., 2400 W. Seventh St.; testing conc., Southwestern Laboratories, 828½ Monroe St.; vault doors, Hoera-Rosenthal Safe Co., 1012 Monroe St.; lathing, plastering and cast stone, C. J. Sutton Co., 2308 Granbury St., all Fort Worth; form work, Elmer Sigler & Co., 301 Security Bldg., Kansas City, Mo.; millwork, Uhrich Millwork, Ltd., Independence, Kan.; misc. and orna. iron and metal doors, Southern Ornamental Iron Works, Arlington, Tex.; steel windows, International Casement Co., Inc., Chemical Bldg., St. Louis, Mo.; terrazzo, Venice Art Marble Co., San Antonio, Tex.; W. G. Clarkson & Co., Archts., 610 First Natl. Bk. Bldg.; Harry B. Friedman, Contr., First Natl. Bk. Bldg. 5-28

**Va.-Tenn.**, Bristol—Masonic Temple Assn., Bristol, Va., let contract at \$45,000 to C. J. Kingsolver for \$56,000 Masonic temple, Piedmont and Cumberland Sts.; rein. conc. and brick, 3 stories, 46x94 ft., cement, mastic and tile floors, conc. foundation, comp. built-up and tile roof, cast stone, metal doors, steel sash and trim, hollow tile, vaults, brass and bronze work; G. M. & G. C. Stone, Archts., Bristol, Va.; work started. 7-23

### Bank and Office

**D. C., Washington**—Perpetual Building Assn., 500 11th St., N. W., let contract to Skinner & Garrett, Inc., 1719 I St., for stone addition to 4-story bldg., 11th and E Sts.; metal ceiling, pine floor, plate glass window; J. H. Grant, Archt., 1719 I St. 5-28

**D. C., Washington**—Andrew J. Sauer & Co., Archts., Schaff Bldg., Philadelphia, Pa., let contract to Frank G. Stewart, 1520 Locust St., Philadelphia, for Medical Arts Bldg., Connecticut Ave., N St. and 19th St.; fireproof, first-class constr., 12 stories, 142.11 x254x130 ft., conc. floors and foundation, slag roof, cast stone, elevators, terrazzo and tile flooring, incinerator, limestone, mail chutes, marble, metal doors, steel sash and trim, gypsum tile, terra cotta trim, vault lights, ventilators, wire glass, brass and bronze work, vacuum steam heat; 171-car garage of conc., 3 stories, 100x160 ft., conc. floors, slag roof. Address Archts.

**D. C., Washington**—American Bridge Co., Wilkins Bldg., Washington, reported, has con contract for fabricated structural steel for \$1,000,000 office and garage bldg. for Standard Oil Co. of New Jersey, 241 Pennsylvania Ave., N. W.; Clyde N. and Nelson Fraz, Archts., Lexington Bldg., Baltimore, Md.; Lynn Rosebrook, company architect, 26 Broadway, New York; Herman F. Doelman, Struct. Engr., Balto Trust Bldg.; Reeder, Eizer & Akers, Mech. Engrs., 916 N. Charles St., both Baltimore. 7-23

**D. C., Washington**—National Geographic Society let contract to George A. Fuller Co., Munsey Bldg., for \$418,000 addition to bldg.; 4 stories, 107x100 ft., limestone and brick, Italian Renaissance type; house photographic library, scientific collection, and magazine editorial offices; Arthur B. Heaton, Archt., 1211 Connecticut Ave., N. W. 7-2

**Ky., Louisville**—American Life & Accident Insurance Co., Fifth and Main Sts., alter and remodel Keller Bldg., same location; linoleum and tile floors, limestone, metal doors, built-up roof, gypsum tile; E. T. Hutchings & Associates, Archts., 1709 Heyburn Bldg.; J. D. Jennings, Contr., 443 Garden St.; following sub-contracts let: Roofing and rein. steel, Walter L. Lacy Co., 1032 S. Eighth St.; cut stone, Diebold & Sons Stone Co., 819 S. 16th St.; struct. steel, Grainger & Co., 119 N. 10th St.; plastering, Chas. Knight; metal doors and windows, Kentucky Iron Works Co., 321 S. Second St.; misc. iron, Kentucky Metal Products Co., Inc., 1724 W. Burnett St.; millwork, Anderson Manufacturing Co., Inc., Beech near Woodland St.; sheet metal, E. T. Welsh, 1287 Lexington Road; glass, Central Glass Co., 3003 W. Broadway; painting, Nold Paint & Glass Co., 1221 Bardstown Rd.; tile, Keno-Ross Co., 524 S. Brook St. 7-23

**Okla., Oklahoma City**—W. S. Key, Perrine Bldg., let contract at \$14,700 to Harmon & Mattison Constr. Co., Insurance Bldg., to remodel first and second floors of 6-story Key Bldg.; J. I. Davis, Archt., First Natl. Bldg. 7-16

### Churches

**Okla., Tulsa**—Temple Israel, Nathan Gens, 1108 E. 21st St., let contract at \$94,000 to

**Geo. Forner**, 1617 S. St. Louis St., for synagogue; brick and rein. conc., 150x150 ft., 98-ft. tower; Donald McCormick, Archt., Atlas Life Bldg. 6-18

**Va., Hampton**—First M. E. Church, South, started remodeling bldg.; about \$28,000; furnishings, equipment, etc., \$8000 to \$12,000; 1 and 2 stories, about 40x130 ft., wood and linoleum floors, tin and slate roof, brick and conc. foundation, cast stone; plans by Charles M. Robinson, Architects, Times-District Bldg., Richmond; Crockett & Perfater, Contrs., Hampton. 7-16

### Dwellings

**Ala., Birmingham**—W. W. French, Jr., 1315 S. 31st St., erect painted brick veneer residence, Mountain Brook; 2 stories and basement, 34x39 ft., comp. roof, hot air heat; Denham & Denham, Archts., 1220 Comer Bldg.; Geo. Paul, Contr., 2337 S. 20th Ave.

**D. C., Washington**—J. G. Nevins, 4515 Illinois Ave., erect 2-story frame residence, 5614 North C St.; 28x22 ft., asphalt shingle roof, hot water heat; O. F. Smith, Contr., 2101 31st St., S. E. 6-4

**D. C., Washington**—F. Davis Little, 3358 Tennyson St., N. W., erect \$10,000 brick residence, 7538 14th St.; 2 stories, slate roof, hot water heat; owner builds.

**D. C., Washington**—O. L. Crickenbarger, 3430 Connecticut Ave., let contract to Griffin Bros., Peoples Life Bldg., 1343 H St. for brick and hollow tile residence, 32nd Place and Tennyson St.; 2½ stories, 34x24 ft., slate roof, hollow tile, copper and sheet metal, steel work, hot water heat; plans by C. E. Dillon, 1206 Floral St. 6-4

**D. C., Washington**—Dr. Matthew W. Perry, Hay-Adams House, erect brick residence and garage, 31st St., Massachusetts Ave. Park; 2 stories, basement and sub-basement, slate roof, hot air heat, tile bath, orna. iron, overhead door; Jos. A. Parks, Archt., 1106 Connecticut Ave.; engineering by Contr.; address equipment proposals to O. A. Elkund, Engr., 1106 Connecticut Ave.

**D. C., Washington**—Mary and Helen Mason, 1326 Valley Place, S. E., erect brick residence, 11249 Talbot St., S. E.; 2 stories, 32x22 ft., comp. shingle roof, hot water heat; Maurice Joyce, Contr., 123 Upsilon St.

**D. C., Washington**—G. H. Gaskins, 5913 Georgia Ave., erect 2 brick dwellings, 617-21 Nicholson St.; 2 stories, slate roof, hot water heat; total \$16,000; owner builds.

**D. C., Washington**—Mrs. Louis Mackall, 3044 O St., N. W., erect brick, conc. and stone residence, 1454 Rhode Island Ave., N. W.; struct. steel, orna. iron, tile and linoleum floors, millwork, hot water heat; Davis, Wick, Rosengarten Co., Contrs., 1406 G St.

**D. C., Washington**—Edgemoor Investment Co., erect 4 brick dwellings, Edgemoor; 2 stories, hardwood floors, tile baths, slate roof, hot water heat; Jos. A. Parks, Archt., 1800 E St., N. W.; owner builds.

**D. C., Washington**—Sadie L. McCormack, 5611 Chevy Chase Pkwy., erect brick residence, 2724 Chesapeake St.; 3 stories, 38x26 ft.; H. H. Hubbard, Contr., 127 Carroll St., Takoma Park.

**D. C., Washington**—John M. King, 1008 11th St., N. E., erect 3 conc. block and frame dwellings, 2425-33 Perry Place, N. E.; 2 stories, comp. shingle roof, hot water heat; Walter Valentine, Archt., 3321 18th St., N. E.; owner builds.

**D. C., Washington**—Louis F. Peak and Frank Simpson, Chevy Chase, erect brick and hollow tile residence, 40th St.; 2½ stories, slate roof, elect. kitchen equipment, hot water heat; C. E. Dillon, Archt., 651 Investment Bldg. 7-23

**D. C., Washington**—North Washington Realty Co., Inc., 7900 Georgia St., erect 2 dwellings, Locust Rd., N. W.; brick, stone and frame, 2 stories, hardwood floors, tile baths, slate roof, hot water heat; Jos. A. Parks, Archt., 1800 E St., N. W., Washington; owner builds.

**D. C., Washington**—C. A. Harnett, 1411 Neal St., erect 9 brick and cinder block dwellings, 1200-28 Holbrook St.; 2 stories, slag roof, hot water heat; \$80,000; C. W. Gosnell, Contr., 1727 K St. 7-23

**D. C., Washington**—J. W. Williams erect \$10,000 residence, 1336 Locust Rd.; brick and frame, 2 stories, slate roof, hot water heat; Guy Stewart, Contr., Sixth and K Sts., N. W. 7-23

**Fla., Miami**—Leslie R. Marfleet, 47 W. Flagler St., erect \$10,000 residence and garage, S. W. 13th St. near 14th Ave.; rein. conc., conc. block, stucco, 2 stories, tile and wood floors, tile and comp. roof, wood sash; B. Kingston Hall, Archt., 609 Collins Ave.; Miami & Beach Construction Co., Contr., 2322 S. W. Ninth St.

**Fla., Miami Beach**—Louis Morse will let contract at about \$18,000 to Rodney Miller, 2618 Alhambra Circle, Coral Gables, for residence and 2-car garage; rein. conc., conc. block and stucco, 2 stories, 4 baths, wood piles and orna. iron, cast stone, tile roof, elect. refrigerator; John M. & Coulton Skinner, Archts., Le Jeune Rd., Coral Gables. 7-16

**Ga., Atlanta**—Reuben L. Moss, 2222 Peachtree Rd., erecting brick veneer residence, 2785 Atwood Rd.; 6 rooms and bath, comp. roof; owner builds.

**Ga., Atlanta**—S. G. Springfield, 2219 Peachtree Rd., N. E., erecting brick veneer residence, 486 Pine Tree Drive, Garden Hills; 1 story and basement; Norris Construction Co., Contr., 161 Spring St., N. W.

**Ga., Atlanta**—Roger Martin, 830 Myrtle St., N. E., erect brick veneer residence, 274 Rumson Rd., Garden Hills; 2 stories and basement, hardwood and tile floors, 7 rooms, 2 baths, comp. roof, steam heat; Cliff Williams, Contr., 1423 Oakview Rd., Decatur.

**Ga., Atlanta**—W. A. Ozmer, 138 Sycamore St., Decatur, erect residence, Johnson Estates; brick veneer, conc. basement, 2 stories and basement, hardwood and tile floors, comp. slate roof; owner builds.

**Ga., Atlanta**—N. C. Odell, 1068 Virginia Ave., N. E., erecting \$20,000 residence, Springdale Rd.; brick veneer, 2 stories and basement, hardwood and tile floors, conc. foundation, comp. or slate roof, steam heat; owner builds.

**Md., Baltimore**—Ernest F. Ritterhoff, 1159 E. Baltimore St., erect \$13,000 residence, 5302 Springlake Way, Homeland; brick, 2 stories; Cyril H. Hobrank, Archt., 3 E. Lexington St.; E. Eyring & Sons Co., Contrs., 809 S. Conkling St.

**Md., Baltimore**—Frank Novak, Jr., Company started work on 4 brick cottages, Fort Avenue near Cliftmont Avenue; 19 planned, constr. as demand indicates; 2 stories, 8 rooms, 2 baths, garages, 20x38 ft., hardwood floors, slate roof, hot water heat; total \$25,000; constr. under supervision of Frank Novak Realty Co., both 33rd St.

**Md., Parkville, Baltimore**—Wm. S. Morgan, 4014 Wilsby Ave., erect 2 frame dwellings; 2 stories, 28x40 ft.; owner builds.

**Mo., St. Louis**—A. Schatzizzi erect 2 brick dwellings, 5247-51 Tholozan St.; 1 story, 26x46 ft., asphalt roofs, hot water heat; total \$10,000; Louis C. Schatzizzi, Archt.-Contr., both 1010 Chestnut St.

**Mo., St. Louis**—Leo Comissiong, 4219 Aldine St., erect \$10,000 residence, 4201 Aldine; brick, 2 stories, 23x64 ft., asbestos shingle roof, hot water heat; F. L. Whitaker, Archt.-Contr., 4546 Kenney St.

**Mo., St. Louis**—O K Investment Co., 8800 Kingshighway, erect 2 brick dwellings, 8751-57 Oriole St.; 33x41 ft., comp. roofs, hot air heat; total \$11,000; owner builds.

**Mo., St. Louis**—M. Goldstein, 5733 Westminster St., erect 4 brick dwellings, 2537-49 Clifton St.; 1 story, 25x45 ft., asphalt shingle roofs, hot water heat; total \$20,000; O. Popp, Archt., Arcade Bldg.; owner builds.

**Okla., Bartlesville**—H. V. Foster let contract to Long Construction Co., Philhower Bldg., Tulsa, for \$75,000 residence; brick and stone, 2 and 3 stories; Keene & Simpson, Archts., 1005 Land Bk. Bldg., Kansas City, Mo.

**Okla., Oklahoma City**—John A. Brown, 112 E. 10th St., erect \$150,000 residence; tile, stone and stucco, 2 and 3 stories; Chas. T. Aubon, Archt.; F. M. Ray, Contr., 200 W. 22nd St.

**Okla., Tulsa**—Walter L. Ditzler, 630 Exchange Bldg., erecting \$13,000 brick veneer residence, 3855 S. Utica St.; 2 stories and basement, 32x37 ft., hardwood, linoleum and tile floors, metal ceilings and doors, shingle roof; J. Leland Benson, Archt., 714 S. Florence St.; A. L. Geiger, Contr., 1506 N. Boston St., contract on cost plus basis; framed in. 7-23

**S. C., Aiken**—Richard F. Howe, 22 E. 47th St., started work on brick veneer winter residence; 2 stories, about 80x93 ft., oak floors, conc. foundation, slate roof; Willis Irvin, Archt., S. F. C. Bldg., Augusta, Ga.; C. B. Holley, 2562 Walton Way, Augusta, genl. contract at \$85,000; plumbing and steam heat and oil burner, W. H. Weatherford; elect. work, Hafer's Electric Co., both Aiken; contracts let for cast stone, marble and tile, struct. steel and lumber. 7-16

**Tex., Houston**—Mr. M. M. Graves, 3518 San Jacinto St., let contract to Ellis E. McCune for \$18,000 residence; brick veneer, 2 stories, 34x52 ft., oak floors, conc. foundation; Joseph Finger, Archt., 711 Natl. Standard Bldg.

**Government and State**

D. C., Washington—Navy Dept., Bureau of Yards and Docks, let contract to Kuldell Bros., 3815 Davis St., N. W., for alterations and repairs to Quarters A, Naval Observatory. 7-16

D. C., Washington—Architect of The Capitol, David Lynn, let contract at about \$95,000 to George A. Fuller Co., Munsey Bldg., for granite steps and platforms for west approaches to Capitol. 7-23

Ky., Fort Benning—Constructing Quartermaster let contract at \$68,528 to James C. Miller, Campbellsville, Ky., for medical detachment barracks; rein. conc., brick and tile, 2 stories and basement, 50x230 ft., conc. and asphalt tile floors, conc. foundation, tile roof. 7-16

Ky., Falmouth—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$40,400 to James C. Miller, Campbellsville, Ky., for post office. 7-23

Ky., Louisville—Wheeling Structural Steel Co., Wheeling, W. Va., has struct. steel contract for post office, court house and custom house; conc. floors, 5 stories, 247x360 ft., cement, wood block, wood, marble and terrazzo floors, copper and comp. roof; Pike & Cook Co., Inc., 416 S. Fifth St., Minneapolis, Minn., gen. contract at \$1,507,700; foundation in. 7-23

Ky., Prestonsburg—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$42,610 to James C. Miller, Campbellsville, Ky., for post office. 7-23

La., New Orleans—Department of Justice, Sanford Bates, Director, Bureau of Prisons, Washington, D. C., let contract at \$130,270 to Gervais F. Favrot, Balter Bldg., New Orleans, to convert the old Mint Bldg. for Federal prison; accommodate 300; cement work, drains, struct. steel pipe rails, cast iron columns, conc. work, orna. iron, carpentry, millwork, sheet metal work, glazing, asphalt tile floors, plastering, metal partitions, painting, brick and tile work, dampproofing, plumbing, steam heating, boiler and stack, oil burning equipment, elect. work, including flood lighting systems, etc.; Diboll & Owen, Ltd., Archts., Canal Bank Bldg., New Orleans. 7-9

Tenn., Huntington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$42,000 to James C. Miller, Campbellsville, Ky., for post office. 7-23

Tex., Fort Worth—Otis Elevator Co., 810 18th St., N. W., Washington, has contract at \$39,714 for elevators for \$1,240,000 post office; Wyatt C. Hedrick, Inc., Archt., First Natl. Bank Bldg., Fort Worth; Ralph Solitt & Sons Construction Co., Contr., 28 N. LaSalle St., Chicago, Ill. 7-16

Tex., Fort Sam Houston, San Antonio—John A. Williamson Co., 804 Avenue A, San Antonio, has contract at \$5989 for screens for 3 field artillery barracks. 6-4

Tex., Houston—American Elevator & Machine Co., 500 E. Main St., Louisville, Ky., has elevator contract at \$66,765 for \$525,000 post office and court house extension and remodeling; Robert E. McKee, Contr., 1918 Texas St., El Paso, Tex. 7-16

Va., Langley Field, Hampton—Constructing Quartermaster, Fort Monroe, Va., let contract at \$32,842 to Jewell-Riddle Co., Inc., Sanford, N. C., for non-commissioned officers' service club, Langley Field; contract at \$32,653 to Smallman & MacQueen Construction Co., Birmingham, Ala., for photographic laboratory; former wood, brick and conc., 1 story, 130x45 ft., wood floors, conc. foundation, shingle tile roof; latter brick and conc., 1 story, 127x40 ft., cement floors and foundation, slate roof. 7-2

**Hospitals, Sanitoriums, Etc.**

Miss., Jackson—State Hospital Removal, Improvement and Land Sale Coms., New Capitol Bldg., Jackson, let contracts for bldgs. in White Group No. 5 and Negro Group No. 2, Mississippi Insane Hospital, as follows: Garber & Dickson, 2 patients' cottages, Type A, 3 and 4, at \$68,464; plumbing on above, \$5331, and heating, \$4930, Davis Plumbing Co., 115 S. State St.; wiring, J. P. Williams, 224 North St., at \$1170, all Jackson; patients' cottage Type B, 4, Lockard & Vaughan, Kidder Bldg., Meridian, at \$35,950, and patients' cottage Type A, 2; both Negro Group No. 2; wiring on above J. P. Williams; conc. pipe, etc., let to Faulkner Concrete Pipe Co., Carter Bldg., Hattiesburg; H. W. Jackson, Archt., Standard Life Bldg., Jackson; Vinson B. Smith, Advisory Archt., Gulfport. 7-23

W. Va., Huntington—Redmon Heating Co., 124 N. Fourth St., Louisville, Ky., has plumbing, heating and elect. work contract, at \$216,031, for \$700,000 U. S. Veterans

Hospital; refrigerating and ice machinery, \$13,365, York Ice Machinery Co., Belmont and Thompson Sts., Philadelphia, Pa.; elevators, \$13,366, Moffatt Machinery Co., 510 W. Third St., Charlotte, N. C.; Worsham Bros., Gen. Contrs., Empire Bldg., Knoxville, Tenn. 7-16

**Hotels and Apartments**

Ala., Montgomery—Merritt Vandiver, 520 S. Court St., erect \$15,000, 2-story, brick veneer, 4-apartment building, 16 Wilson St.; comp. roof; Jehle Brothers, Contrs., Shepherd Bldg. 7-19

D. C., Washington—G. B. Mullin Estate, care Francis A. Blundon, 805 H. St., ready for sub-bids for 3-story, 100x16 ft., brick and conc., 30-apartment building, 13th and Taylor Sts.; Geo. T. Santmyers, Archt., 925 Fifteenth St. 7-23

D. C., Washington—Gelmon Construction Co., 2649 Woodley Place, ready for sub-bids for \$200,000, 8-story, 100x100 ft., brick, stone trim apartment, Wisconsin Ave. and Woodley Road; comp. roof, steam heat; Geo. T. Santmyers, Archt., 925 Fifteenth St. 7-23

Fla., Miami Beach—Carlos B. Schoeppel, Archt., 2382 N. Alton Road, Miami, reported, let contract to Wm. F. Bonsack, 528 Lincoln Road, for \$12,000 Clarence Cobb Apartments on Prairie Ave. 7-23

Mo., Springfield—C. A. Dieter Construction Co., Joplin, has contract and prob. start work in two weeks on \$300,000, 8-story apartment for a Joplin-Kansas City corporation; brick and tile, terra cotta trim; sub-contracts for millwork, painting and plumbing have not been awarded. 7-23

Tenn., Nashville—Guaranty Bank & Trust Co. has permit for \$15,000, 2½-story, brick veneer apartment, 1911 Twentieth Ave., S.; 6 units. 7-23

Tex., Lampasas—Keystone Hotel, J. R. Key, let contract at \$9500 to B. C. Knight, for 29x29 ft., 7-room addition and improvements to hotel; Roy L. Thomas, Archt., Litchfield Bldg., Austin. 7-23

Tex., Schulenburg—Hotel Corp., care Mr. Davis, Plaza Hotel, Gonzales, let contract to Don Hall, Esperson Bldg., for \$150,000, 2-and 3-story, 138x88 ft., brick, struc. clay tile and rein. conc., 75-room hotel; Louis P. Josserand, Archt., First Natl. Bank Bldg.; R. C. Stokes, Bankers Mortgage Bldg., all Houston. 7-23

**Miscellaneous**

Fla., Hialeah—Miami Jockey Club, Frank L. Bruen, Mgr.-Dir., 5632 Sheridan Ave., Miami Beach, let contract at \$106,172 to Everglades Construction Corp., 2705 N. W. 62nd St., Miami, for grandstand improvements at Hialeah Park racing track; also let contract for moving building to Leonard Brothers Transfer & Storage Co., 1944 N. W. Seventh Ave., Miami; electrical work, Grethen Electric Co., Hialeah; new pipe, Crane Co., 85 N. W. 10th St.; water works, J. N. Vernam Co., 2598 S. W. 18th Ave., both Miami; H. H. Smith, of Riddle & Smith, Inc., 210 Royal Palm Way, Palm Beach, supervisor of work; L. W. Geisler, Archt., 19 Via Parigi, Palm Beach. 7-23

Ga., Albany—J. C. & W. C. Holman Mule Co. expend \$12,500 for repairs to stable noted damaged by fire; one story and basement, 86x210 ft., brick; owner builds. 7-23

Ga., Washington—St. Joseph's Male Orphanage, Bishop Michael J. Keyes, Pres., let contract to Southern Ferro Concrete Co., Ellis St., N. E., Atlanta, for \$75,000, 2-story and basement building for classrooms, infirmary and chapel; rein. conc., brick, limestone trim, comp. roof, wood and tile floors, steam heat; Pringle & Smith, Archts., Norris Bldg., Atlanta. 7-23

S. C., Greenwood—Railway Express Agency, Inc., G. J. Dye, Asst. Supt. Bldgs., 325 Mitchell St., S. W., Atlanta, Ga., let contract to C. M. Guest & Son, Sharpe St., Anderson, S. C., for 1-story, 59x35 ft., brick and single express building; comp. roof, stone trim, steam heat. 6-18

**Railways Stations, Sheds, Etc.**

Tex., Dallas—Mosher Steel & Machinery Co., 5209 Maple St., reported, has contract for 700 tons struc. steel for train shed for Texas & Pacific Ry. Co., E. F. Mitchell Ch. Engr., Texas & Pacific Bldg. 7-23

**Schools**

Ark., Arkadelphia—School Bd. let contract to W. B. Smith, El Dorado, for \$100,000, 3-story, 206x135 ft., fireproof, rein. conc. and brick, stone trim, 14-classroom and auditorium high school; plumbing, Pettit-Galloway Co., 114 E. Seventh St., Little

Rock; heating, John Patton, Morrilton; wiring, Texarkana Electric Co., Texarkana; Petter & McAninch, Inc., Archts., Pyramid Bldg., Little Rock. 7-9

Fla., Winter Park—Rollins College, E. T. Brown, Treas., let contract to George W. Hessler, Inc., 111 W. Ashley St., Jacksonville, for \$100,000 "Annie Russell" Theater, gift of Mrs. Edward Bok, Philadelphia, Pa.; seat 400 people; Kiehnle & Elliott, Archts., Seybold Bldg., Miami. 3-19

La., DeRidder—Beauregard Parish School Bd. let contract at \$7243 to J. M. Hanley, Jr., for repairing grammar school; R. S. McCook, Inc., Archt., First Natl. Bank Bldg., Lake Charles. 7-23

Md., Baltimore—Bd. of Awards let contract at \$10,990 to Lafayette Engineering Co., 28 W. 20th St., for heating, plumbing and electric work, School No. 20, Preszman and Pulaski Sts.; also let contract at \$3894 to Geo. H. Schaffer, 4017 Falls Road, for heating, plumbing and electric work and millwork at School No. 28. 7-23

Md., Charlotte Hall—Charlotte Hall School let contract to Chas. B. Millhoffer, Hughesville, for addition to school; Howard W. Cutler, Archt., 1800 E St., N. W., Washington, D. C. 7-23

Md., Frederick—Frederick County Bd. of Education, G. Lloyd Palmer, Supt., Frederick, let contract to C. C. Weddle, Thurmont, for \$45,000, 8-room and auditorium, brick school; C. Frederick Bowers, Archt., Frederick. 7-16

Md., Helen—St. Mary's County School Bd., Miss Lettie M. Dent, Supt., Leonardtown, let contract to Morrison Bros., Bethesda, for \$35,000, one-story, 56x166 ft., brick high school; 6 rooms and auditorium; hardwood floors, comp. roof; Rossel Edw. Mitchell, Archt., 7 E. Melrose St., Chevy Chase. 7-9

Md., Prince Frederick—Calvert County School Comr., Franklin Day, let contract at \$10,700 to Lyon, Gibson Co., Inc., Huntingtown, for one-story, 57x78 ft. frame grade school near Chaneysville; wood floors, comp. shingle roof; J. M. Armstrong, Archt., 35 Franklin St., Annapolis. 7-2

Md., Towson—Greenwood School, Boyce Ave., erect 3-story and basement, 30x43 ft. brick addition; Lawrence Hall Fowler, Archt., 347 N. Charles St., Baltimore; L. L. Chambers, Contr., 36th St. and Roland Ave., Baltimore, ready for sub-bids. 7-23

Miss., Saucier—Saucier Consolidated School Dist. Trustees let contract at \$14,385 to Tom Massengale, Hattiesburg, for one-story, brick school; Shaw & Woleben, Archts., Gulfport. 7-23

Mo., Maysville—School Bd. started work on \$95,000, 3-story, 150x125 ft., conc. frame, fireproof school to replace recently burned structure; wood over conc. floors, built-up roof over conc., cast stone; H. D. Pampel, Archt., 702 Finance Bldg.; Erwin Pfahl, Engr., 705 Finance Bldg., both Kansas City; Wilson Construction Co., Contr., Maysville. 7-26

Okla., Oklahoma City—Crooked Oak District School Bd., M. D. Duke, Clk., let contract at \$12,900 to I. M. Crissman, S. W. Natl. Bldg., for one-story, brick school; The Butler Co. Archts., Insurance Bldg.; Mrs. Ida M. Hale, County Supt. of Education, 1537 W. 24th St. 6-11

Tenn., Joelson—Davidson County Bd. of Education, Nashville, let contract to A. M. Watson for 5-room, brick, stone trim school; Granberry Jackson, Archt., 220 Capitol Blvd., Nashville. 7-23

Tenn., Knoxville—Knox County School Bd. let contract to H. E. Rogers, 977 Lee Ave., for school at Sunnyview; opened bids July 29 for improvements at Ball Camp and Chestnut Grove, Hardin Valley. 7-23

Tenn., Nashville—Holy Name School, 6th and Woodland Sts., has permit for \$20,000 addition; E. E. Austin, Contr., 726 Commerce St.; Tisdale & Pinson, Archts., Ind. Bldg.; work started. 7-23

Tenn., Oneida—Oneida Ind. High School Bldg. Bd. let contract at \$16,115 to Joe P. Adams for high school addition. 7-23

Tex., Beeville—School Bd., Prof. W. E. Madderra, Supt., let contract to Fritz Heldens for two schools; \$10,000 each. 7-23

Tex., College Station—Texas A. & M. College let contract at \$8100 to Alamo Iron Works, 130 Santa Fe St., San Antonio, for rein. steel for \$350,000 chemistry building; 3 stories and basement, brick, clay tile, struc. steel, rein. conc., artificial stone trim, built-up roof, terrazzo and conc. floors; owner to build with Will A. Orth, College Station, in charge; plans by Prof. F. E. Giesecke, College Archt.; L. D. Royer, Mech. Engr., Smith-Young Tower, San Antonio. 7-23

Tex., Flatonia—Flatonia Ind. School Dist., A. E. Arnim, Jr., Pres., School Bd., let contract at \$18,995 to Wm. Ungerer for one-story, 109x62 ft., rein. con., struc. clay tile, brick high school; 3 classrooms, science room and auditorium to seat 200; conc., wood and terrazzo floors; R. Newell Waters, Archt., Weslaco; W. E. Simpson Co., Sngrs., 942 Milam Bldg., San Antonio. 7-16

Tex., Galveston—School Bd., John Neethe, Pres., let contract at \$30,814 to M. C. Bowden, 1801 C St., for repairs to Rosenberg School; Andrew Fraser, Archt., 624 American Natl. Insurance Bldg. 7-2

Tex., Longview—Gregg County Ind. School Dist., H. L. Foster, Supt. of Schools, erect \$27,470 brick school on Green St.; Bracy Construction Co., Contr. 7-9

### Stores

Ga., Atlanta—The Berkley Co., Inc., Box 322, erect \$10,000 brick store, 2454-60 Memorial Drive, S. E.; tar and gravel roof;

Shelverton Construction Co., Contr., Red Rock Bldg.

Va., Richmond—Virginia School Supply Co., 2000 W. Marshall St., let contract to E. L. Bass & Brothers, 708 Bainbridge St., for improvements to building recently damaged by fire; \$17,450.

### Theatres

Fla., Tampa—Casino Enterprises, Inc., Frank Rogers, Pres., Ybor City, started remodeling Casino Theater, Howard Ave. and Cherry St.; \$25,000; plans include installation of "washed air" ventilating equipment, sound equipment to cost \$7000, new seats, conc. floors, redecorating, 150-ft. marquee; R. A. Benjamin, Archt., 21 N. Ocean St., Jacksonville; Arthur Jones, Supt. of Construction.

Fla., Winter Park—Rollings College let contract to George W. Hessler, Inc., 111 W. Ashley St., Jacksonville, for \$100,000 "Annie Russell" Theater. See Contracts Awarded—Schools.

Okl., Oklahoma City—Haythel James erect \$10,000 one-story, 30x15 ft., brick theater; R. B. Bingham, Contr., 704 E. Third St.

### Warehouses

Ark., Little Rock—Terminal Warehouse Co., 500 E. Markham St., started work on \$25,000, 145x100 ft., 2-story, brick warehouse, Third and Collins Sts., to be occupied by branch of Western States Grocery Co., 823 E. Second St.; 25,000 sq. ft. floor space; loading docks along Missouri Pacific and Rock Island Lines tracts; refrigeration units will be provided; Eugene John Stern, Archt., A. O. U. W. Bldg. 7-2

N. C., Reidsville—F. L. McCollum, Fred Brown and others started work on 340x150 ft. tobacco warehouse on Piedmont St. near Scales St.; 51,000 sq. ft. floor space, brick and steel, metal roof, day labor.

Tex., Houston—Litowich Brothers, Cotton Exch., Bldg., have permit for \$40,000 warehouse, 3400 Cline St.; American Construction Co., Contr., Gulf Bldg.

## WANT SECTION

### THE CLASSIFICATIONS IN THIS SECTION ARE:

#### Machinery and Supplies

Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.

*Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.*

#### Building Materials and Equipment

#### Bids Asked

Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.

#### Machinery and Supplies

**Boiler.**—Box 174, Dallas, Tex.—Wants prices and data on 40-h.p. Scotch Marine type boiler, used, good condition, to stand 100 lb. pressure; state age, location, condition and equipment included.

**Derrick.**—Bullock Bros. Co., Inc., Martin Bldg., Birmingham, Ala.—Wants prices and data on steel stiff-leg derrick, 80-ft. base, 18 to 20-ft. bull-wheel, fitted for 1½-yd. clamshell bucket operation.

**Dragline.**—Lawrence Manning (Mchy. Dealer), 6 15th St., N. E., Atlanta, Ga.—Wants prices and data on 6-yd., 160-ft. boom, Diesel oil engine or electric power, modern, crawler type dragline; first-class condition.

**Oil Engine.**—Merrill B. Parker, Chattanooga, Tenn.—Wants prices and data on 50 to 60-h. p. oil engine, for resale.

**Planer.**—Gilbert Calhoun, Farmington, Pa.—Wants prices and data on planer with matcher and molding attachment.

**Pump.**—W. M. Smith & Co. (Mchy. Dealer), Box 1709, Birmingham, Ala.—Wants prices and data on 27,000-g. p. m. pump with 7-ft. head.

**Road Building and Maintenance Equipment.**—De Estradas De Rodagem, Director of Highways, Rue Benjamin Constant No. 13, Sao Paula, Brazil—Wants prices and data on road building and maintenance equipment.

**W. M. Smith Co. (Mchy. Dealer).**—Box 1709, Birmingham, Ala.—Wants prices and data on following:

- (1) Crank Shaper—24 to 30 in.
- (2) Lathe—32 in., any length bed
- (3) Welding Machine (Electric)—gasoline engine driven.

#### Miscellaneous

**Weather Stripping.**—A. H. Hutchinson, 533 Cleburne Ter., N. E., Atlanta, Ga.—Wants prices and data from manufacturers of copper weather stripping, made of tempered spring copper, 1 in. wide, and not bent at edges.

**Bullock Bros. Co., Inc.**—Martin Bldg., Birmingham, Ala.—Wants prices and data on following:

- (1) Pipe (Cast Iron)—5000 ft., Class B, 6 in., bell and spigot, used
- (2) Tanks (Gasoline and Oil)—3, 10,000 gal. capacity and one 18,000 gal. capacity, steel, horizontal
- (3) Tank (Water)—50,000 gallon capacity, mounted on 75- to 100-ft. steel tower.

**Airport Management and Operation.**—Chamber of Commerce, Durham, N. C., promoting airport project and interested in receiving proposals for management and operation of local airport.

#### Building Material and Equipment

Brown, McCollum, Groome Co., Inc., Reidsville, N. C., wants prices on following for \$50,000 tobacco warehouse:

#### Elevators (Electric)

—platform 5x8 ft.

#### Bids Asked

**Automobiles.**—Commr., D. C., Washington, D. C.—Bids Aug. 5 for automobile roadsters.

**Athletic Equipment.**—Commr., D. C., Washington, D. C.—Bids Aug. 3 for 6 tether tennis poles, 7 parallel bars, 4 see-saws, 1 wave slide, 7 bar outfit, 10 ladders, 52 balance boards, 28 gym mats, 28 mat covers, 125 pr. Indian clubs, 10 pr. wall hangers, 7 volley ball stands and 12 pumping standards, for public schools.

**Automobile.**—Commr., D. C., Washington, D. C.—Bids Aug. 10 for police reserve automobile.

**Bags.**—Marine Corps Q. M. Dept., Washington, D. C.—Bids Aug. 5 for 300,000 paper bags, Kraft, delivery Quantico, Va.

**Band Saw.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Aug. 4 for motor driven band saw.

**Boathouses.**—U. S. Engr. Office, Huntington, W. Va.—Bids Aug. 6 for boathouses.

**Boring Mill.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Aug. 11 for motor driven, vertical boring mill.

**Bridge.**—See Construction News—Bridges, Culverts and Viaducts.

**Bridges.**—State of Maryland—Bids for 3 bridge projects. See Construction News—Bridges, Culverts and Viaducts.

**Bridge Approach.**—St. Louis, Mo. See Construction News—Bridges, Culverts and Viaducts.

**Bridges.**—New Iberia, La. See Construction News—Roads, Streets and Paving.

**Bridge.**—Walthall, Miss. See Construction News—Bridges, Culverts and Viaducts.

**Bulkhead.**—Supt. of Lighthouses, New Orleans, La.—Bids Aug. 10 for constructing 800 ft. creosoted pile and timber bulkhead.

**Concrete Tanks and Reservoir.**—Constructing Quartermaster, Randolph Field, Tex.—Bids Aug. 3 for constructing 4 auxiliary concrete water storage tanks and 1 underground covered conc. reservoir, Randolph Field.

**Croosoted Lumber.**—Supt. of Lighthouses, New Orleans, La.—Bids Aug. 5 for 6910 lin. ft. creosoted piles and 127,924 ft. creosoted lumber.

**Dredging.**—U. S. Engr. Office, Galveston, Tex.—Bids Aug. 24 for dredging entrance channel, Sabine Lake into Johnsons Bayou, La., consisting of removal of about 37,000 cu. yd. over channel length of approx. 2300 feet.

**Compressor.**—Chief, Bureau of Yards and Docks, Navy Dept., Washington, D. C.—Bids Aug. 12 for cross-compound, steam driven air compressor, capable of compressing 5000 cu. ft. free air per min. to a gauge pressure of 100 lb. per sq. in., installed on foundations provided by government at navy yard, Norfolk, Va.

**Electrical Supplies.**—Harris County Navigation Dist. Commr., J. Russell Wait, Secy., Fifth Floor Courthouse, Houston, Tex.—Bids Aug. 11 for electrical supplies.

**Elevator Plant.**—Treasury Dept., Office of Supvg. Archt., Washington, D. C.—Bids Aug. 17 for installing complete elevator plant in U. S. Post Office, courthouse, etc., Little Rock, Ark.

**Elevator Plant.**—Treasury Dept., Office of Supvg. Archt., Washington, D. C.—Bids Aug. 14 for installing complete elevator plant in U. S. Federal Bldg., Brownsville, Tex.

**Fire Apparatus.**—Commr., D. C., Washington, D. C.—Bids Aug. 13 for furnishing and delivering motor driven fire apparatus.

**Fueling System.**—Constructing Quartermaster, Randolph Field, Tex.—Bids Aug. 21 for gasoline refueling system.

**Heating Plant.**—Constructing Quartermaster, Fort Monroe, Va.—Bids Aug. 14 instead of July 28 for heating plant for barracks, Langley Field, Va.

**Gas Cooking Ranges.**—U. S. Engr. Office, Huntington, W. Va.—Bids Aug. 3 for gas cooking ranges for Locks 16 and 17, Ohio River.

**Gasoline.**—Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids Aug. 11 for 1,000,000 gal. gasoline, Sch. 2673.

**Knife Blades.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Aug. 4 for Bard-Parker knife blades.

**Lathe.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Aug. 4 for motor driven, toolroom precision lathe.

**Lathe.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Aug. 11 for motor driven, selective head engine lathe.

**Lawn Sprinkling System.**—David Lynn, Architect of the Capitol, Washington, D. C.—Bids Aug. 19 for underground lawn sprinkling system in part of U. S. Capitol Grounds.

**Levee.**—U. S. Engr. Office, foot of Prytania St., New Orleans—Bids Aug. 21 for approx. 39,000 cu. yd. earthwork in spoil banks for closure of gaps in side levees, Bonnet Carre Spillway, Second New Orleans Dist.

**Levee.**—U. S. Engr. Office, P. O. Box 667, Vicksburg, Miss.—Bids Aug. 18 for approx. 19,081,700 cu. yd. earthwork, east and west banks Mississippi River, Miss., Ark., and La., and approx. 140,000 cu. yd. south bank Arkansas River, Ark. See Construction News—Miscellaneous Construction.

**Levee.**—U. S. Engr. Office, 1006 McCall Bldg., Memphis, Tenn.—Bids Aug. 10 for approx. 3,156,000 cu. yd. earthwork, Upper Yazoo Levee Dist., Miss. See Construction News—Miscellaneous Construction.

**Lighting System.**—David Lynn, Architect of the Capitol, Washington, D. C.—Bids Aug. 20 for installation of street and park lighting system as part of enlargement of Capitol Grounds.

**Lumber.**—Quartermaster, Fort Bliss, El Paso, Tex.—Bids Aug. 10 for approx. 60,000 ft. and 300 pieces lumber.

**Meters.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Aug. 4 for furnishing electric meters to Naval powder factory, Indian Head, Md.

**Miscellaneous.**—Quartermaster Supply Office, Fort Sam Houston, San Antonio, Tex.—Bids Aug. 6 for stable brooms, mop handles, manure fork handles, rake handles, shovel handles, caustic soda lye, brass or bronze padlocks, stove polish and cotton mops.

**Miscellaneous.**—Panama Canal Office of Gen. Pur. Officer, Washington, D. C.—Bids August 7 for following, Sch. 2672:

**Cable, wire, vacuum-cleaner cord, rigid steel conduit, conduit fittings, panelboards, pothead, outlet boxes, switches, fuses, street-lighting globes, varnished cambric tape, wire solder, carbon brushes, bolts, rivets, pneumatic tires, inner tubes, etc.**

**Monuments.**—State Bd. of Control, S. M. Ramsey, Sec., Austin, Tex.—Bids Aug. 14 for constructing 19 monuments, 7 in State Cemetery, Austin, 2 in Bexar County, 2 in Harris County, 2 at West Columbia, and 1 each at Galveston, Corpus Christi, Chapel Hill, Jefferson, Freeport and Brownwood; appropriation for each erected, \$200, except one in Bexar County at \$1000 and one at Galveston \$500.

**Mortuary Crematory.**—City, Bd. of Public Service, City Hall, St. Louis, Mo.—Bids Aug. 18 for mortuary crematory at city infirmary.

**Moving and Erecting Radio Tower.**—U. S. Engr. Office, 1006 McCall Bldg., Memphis, Tenn.—Bids Aug. 4 for moving and erecting steel radio tower at supply and repair depot, right bank Mississippi River, opposite Memphis, Tenn.

**Pig Lead.**—Comms., D. C., Washington, D. C.—Bids Aug. 4 for pig lead.

**Pipe.**—U. S. Engr. Office, P. O. Box 45, Jacksonville, Fla.—Bids Aug. 7 for lapwelded pipe for dredge "Congaree."

**Pipe (Concrete).**—U. S. Engr. Office, Huntington W. Va.—Bids Aug. 3 for conc. pipe, for London Lock, Kanawha River.

**Recorders.**—U. S. Engr. Office, Norfolk, Va.—Bids Aug. 6 for 3 water stage recorders.

**Road.**—Gulfport, Miss. See Construction News—Roads, Streets and Paving.

**Road and Streets.**—Baltimore, Md. See Construction News—Roads, Streets and Paving.

**Roads, Water Lines, Sewers, Electric System, Etc.**—Construction Quartermaster, Fort George G. Meade, Md.—Bids Aug. 5 for main roads, service roads, water lines, sanitary sewer and storm water lines, manholes and underground electric distribution systems.

**Roads.**—State Highway Dept., Dover, Del.—Bids Aug. 19 for road projects: Cont. 1 (N-4), Indian River Inlet dredging, 50,000 cu. yd. excavation; Cont. 144B, Marshallton Cut-off, paving 1000 ft., 800 cu. yds. excavation, 850 cu. yd. cement conc. pavement, 500 lin. ft. expansion joint, 2500 sq. ft. conc. sidewalk, 400 lin. ft. conc. curb, 1700 lin. ft. cable guard rail, 10 end post attachments, 2000 lin. ft. wood shoulder curb; Cont. 182B, 200 cu. yd. excavation, 500 cu. yd. borrow, 1400 cu. yd. Class A conc., 122,000 lb. reinforcement, 7000 lin. ft. conc. piling, 10 M. ft. b. m. sheet piling; Cont. 199, Dorman St., Harrington, 3450 ft., 1500 cu. yd. excavation, 1250 cu. yd. conc. pavement, 3650 lin. ft. longitudinal joint, 800 lin. ft. expansion joint, 1000 lb. catch basin castings, 100 lin. ft. 12-in. c. i. pipe, 400 lin. ft. conc. curb; Cont. 200, William and Cedar St., Bridgeville, 2600 ft., 800 cu. yd. excavation, 400 cu. yd. borrow, 1000 cu. yd. cement conc. pavement, 2600 lin. ft. longitudinal joint, 700 lin. ft. expansion joint, 10 cu. yd. Class A conc., 2000 lb. catch basin castings, 150 lin. ft. 12-in. c. i. pipe; Cont. 202, School St., Millboro, 1340 ft., 600 cu. yd. excavation, 500 cu. yd. cement conc. pavement, 1350 lin. ft. longitudinal joint, 400 lin. ft. expansion joint, 800 lb. catch basin castings, 50 lin. ft. 12-in. c. i. pipe; Cont. U, 30 tons fertilizer, 1 ton assorted seed.

**Road.**—Water Valley, Miss. See Construction News—Roads, Streets and Paving.

**Roads.**—State of Maryland—Bids for 6 roads. See Construction News—Roads, Streets and Paving.

**Road Building Materials.**—Mobile County Bd. of Revenue and Road Commsrs., E. C. Doody, Clk., Mobile, Ala.—Bids Aug. 10 for furnishing material for paving improvement between Bayou La Batre and Irvington; 260 bbl. Portland cement, 150 cu. yd. gravel, 100 cu. yd. sand.

**Road.**—Kentucky. See Construction News—Roads, Streets and Paving.

**Roofing.**—Constructing Quartermaster, Barksdale Field, Shreveport, La.—Bids Aug. 3 for installing steel deck roofing insulation and built-up roofing or asbestos protected roofing for 1 q. m. warehouse, 1 q. m. garage, 2 bays only, and 1 q. m. maintenance building.

**Sewers.**—Comms. of Sewerage of Louisville, Frank D. Rash, Act. Chmn., Louisville, Ky.—Bids Aug. 6 for Beals Branch trunk sewer; involves 736 lin. ft. 10-ft. 3-in. semi-elliptical rein. conc. sewer; 2429 lin. ft. 9-ft. 3-in. semi-elliptical rein. conc. sewer; 554 lin. ft. 9-ft. semi-elliptical rein. conc. sewer; 3620 lin. ft. open trench excavation; 13,450 cu. yds. rock excavation; 200,000 lbs. steel rein. bars; 3235 cu. yds. rein. or plain conc.; 3750 sq. yds. vitrified brick invert lining; Bids Aug. 20 for Mill Creek trunk sewer; includes 3955 lin. ft. 13-ft. 6-in. by 20 ft. 3-in. inverted egg rein. conc. sewer; 2769 lin. ft. 12 ft. 8-in. by 19-ft. inverted egg rein. conc. sewer; 150 lin. ft. 8-ft. 4-in. by 12-ft. 6-in. inverted egg rein. conc. sewer, overflow structure, junction chamber, manholes, etc.; 6874 lin. ft. open trench excavation; 22,800 cu. yds. rein. or plain conc.; 5,100,000 lbs. steel rein. bars.

**Sewers.**—City of Victoria, Texas, E. J. Blackert, Mayor.—Bids Aug. 3 for 1676 lin. ft. of 60-in. monolithic conc. sewer.

**Stationery Supplies.**—Quartermaster Supply Officer, Fort Sam Houston, Tex.—Bids Aug. 4 for 194 rubber bands, 1290 note books, 1724 erasers, 262 tubes correction fluid, 2625 bottles typewriter oil, 530 jars office paste, 19 adding machine ribbons, 2986 typewriter ribbons, 10,750 memorandum pads, 10 lb. rubber bands, 160 jars office paste, 350 typewriter ribbons, 4 spools staples, 160 boxes gummed labels, 160 calendar pads, 300 reams bond paper and 4000 memorandum pads.

**Streets.**—Waco, Tex. See Construction News—Roads, Streets and Paving.

**Streets.**—St. Louis, Mo. See Construction News—Roads, Streets and Paving.

**Street.**—St. Louis, Mo. See Construction News—Roads, Streets and Paving.

**Street.**—Yorktown, Tex. See Construction News—Roads, Streets and Paving.

**Street.**—Little Rock, Ark. See Construction News—Roads, Streets and Paving.

**Structural Steel.**—Pennsylvania R. R. C. E. Walsh, Pur. Agt., Room 415, No. 15 N. 32nd St., Philadelphia, Pa.—Bids Aug. 4 for struc. steel.

**Swimming Pool.**—City, Bd. of Public Service, City Hall, St. Louis, Mo.—Bids Aug. 18 for indoor swimming pool for colored, Jefferson and Adams Sts.

**Tank and Tower.**—See Water Mains, Pump-houses, etc.

**Torches.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Aug. 11 for portable, suction oil burning torches.

**Truck Chassis.**—Comms., D. C., Washington, D. C.—Bids Aug. 6 for 2 truck chassis equipped with flushing unit.

**Vessel Repairs.**—Quartermaster Corps, Fort Moultrie, S. C.—Bids Aug. 20 for repairs to D. B. boat L-67.

**Water Piping, etc.**—Treasury Dept., Office of Supvg. Archt., Washington, D. C.—Bids Aug. 19 for new brass water piping, etc., at U. S. post office (old), Nashville, Tenn.

**Winches.**—U. S. Engr. Office, 1006 McCall Bldg., Memphis, Tenn.—Bids Aug. 13 for heavy duty winding winches.

**Hedging in Grain Futures.**—This is the title of Circular No. 151 issued by the United States Department of Agriculture, dealing with the subject of hedging, especially as applied to the handling of grain at country elevators. The purpose is to acquaint readers with the "various kinds of protective use to be made of the futures market and to explain some of the fundamentals to be observed in connection with such use."

## Trade Literature

**Fifty Years of Steam.**—April 1, 1931, marks the fiftieth anniversary of the incorporation of the Babcock & Wilcox Company, New York manufacturers of boilers, fuel oil burners, mechanical stokers, superheaters, etc., and the company has issued an attractively bound and interesting volume, "Fifty Years of Steam." At the beginning, the publication presents brief sketches of George Herman Babcock and Stephen Wilcox, who were associated as partners from 1867 to 1881, the partnership being succeeded by the incorporated company in the latter year. Other sections of the volume outline the growth and development of the organization and detail refinements and improvements which have characterized the evolution of Babcock & Wilcox boilers.

**Aluminum for Woven Fences.**—The Page Steel & Wire Company, Bridgeport, Conn., is distributing a booklet, "Why Aluminum Fence," which outlines the development of aluminum and advances reasons why it makes a better fence. The use of aluminum for woven wire fences is meeting with approval by the industry, it is said, because it does not corrode nor require periodic painting to keep it in condition.

**Electric Light and Power.**—The National Electric Light Association, New York, has issued Bulletin No. 7, for June, devoted to "The Electric Light and Power Industry, 1930." Statistics embrace operations of enterprises devoted exclusively to generation and distribution of electricity, together with electric departments of others which maintained electric light and power systems jointly with other public utility services.

**Foremen's Bulletin.**—Under the foregoing caption, the American Rolling Mill Co., Middlebury, Ohio, publishes a bulletin each week, presenting to customers ARMCO'S "long experience in safety and training." Each bulletin is directed at the reduction of operating costs and points out common-sense methods available to foremen-managers. A new feature has been added recently in the form of a column of bits of pointed philosophy by business leaders.

**Vari-Speed Motor Pulley.**—The Reeves Pulley Company, Columbus, Ind., has issued a bulletin formally announcing and describing the Reeves Vari-Speed Motor Pulley, a new unit for providing infinite variable speed control. Designed for lighter horsepower requirements and for speed ranges not to exceed 3:1 ratio, an outstanding feature is that the unit forms the driving connection from the motor to the controlled machine, making auxiliary equipment unnecessary.

**Sling Chains.**—The American Chain Company, Inc., Bridgeport, Conn., announces a new book containing information on all standard types of sling chains. In addition to specification tables, it presents definitions, cautions and instructions governing purchase and use of chain. For handy reference, a chart is printed on the back cover showing safe working loads of iron sling chains when used at various angles.

**Unloading Costs.**—The Cleveland Tractor Company, Cleveland, Ohio, manufacturers of Cletrac crawler tractors for farm and industrial purposes, have issued a folder, "When Cletrac Goes Into the Hold." The publication features some of the uses of Cletrac crawlers in unloading ships and presents illustrations showing their application to these jobs.

**Electric Drive for Paper Winders.**—The Reliance Electric & Engineering Company, Cleveland, O., manufacturers of electric motors for direct and alternating current, have issued Bulletin 600, devoted to Reliance electric drive for four-drum paper winders. It is of simplified design and control and requires little space for installation. Safety is also improved, because running parts are not exposed.

**Portable Compressors.**—The Gardner-Denver Company, Quincy, Ill., has issued bulletin PC4, illustrating and describing various sizes and mountings of its portable compressor line. Engineering features of these machines include force feed lubrication with filtered oil, generous bearing areas and simplicity of automatic control system. Bulletins may be obtained from the office at Quincy or from any of the company's sales and service branches.

#### Electric Bond and Share Report

A comparative statement of income of the Electric Bond and Share Company, New York, for the year ended June 30, 1931, shows gross income of \$46,953,106, as compared with \$53,263,165 for the year ended June 30, 1930; expenses, \$10,002,760, as compared with \$12,168,159; total dividends, \$16,593,827 as compared with \$14,646,874, and surplus income, \$20,266,519, as compared with \$26,448,132.

**The Border Patrol.**—This is the title of a booklet recently published by the Page Fence Association and now being distributed by the Page Steel & Wire Company, Bridgeport, Conn. It presents illustrations of typical fence installations, contains various style sheets of chain link and wrought iron picket fences and outlines reasons why a well-fenced property is a paying proposition.

**Elevator Entrances, and Hollow Metal Doors.**—Niedringhaus, Inc., St. Louis, Mo., manufacturers of hollow metal doors and trim, rolled steel frames and elevator entrances, have issued two new folder catalogs, designated as A. I. A.—16-A and A. I. A.—32-F. The former is devoted to hollow metal doors and trim and the latter to elevator entrances.

## INDUSTRIAL NEWS

### Simonds Heads Appalachian Gas

O. H. Simonds, associated for the past eight years with Electric Bond and Share Company as operating sponsor of certain of the company's gas and electric properties in the Mississippi Valley, including the United Gas Corporation, Houston, has been elected president of the Appalachian Gas Corporation, New York, succeeding H. G. Scott, who remains as a director of the company. Mr. Simonds has specialized in operations of gas and electric properties for more than 15 years and is a director of a number of utilities, including the Memphis Natural Gas Company and the Louisiana & Arkansas Railroad.

### Talking Pictures for Selling

The use of talking pictures to present the story of a new product to a single prospect is being employed by the Armstrong Cork & Insulation Company, Lancaster, Pa. This is the first time such methods have been used, it is said, in the history of personal selling. The Armstrong company employs this method to introduce Temlok, a new fibreboard insulation, to lumber dealers. Twin motor cruisers enable the salesmen to transport diminutive theaters to lumber dealers' yards and stage a complete sound movie screening for one or more persons. Western Electric sound equipment is used with the portable apparatus.

### Offers Building Specialty Service

Henry Stephen Harvey is opening a building specialty office at 1615 Seventeenth street, north, Birmingham, Ala., for a complete service to architects and contractors. A former resident of Birmingham, Mr. Harvey practiced architecture in Florida for 11 years, designing and supervising important construction. Catalogues on building specialties are desired by Mr. Harvey at his address.

### B. & O. Adds Air-Conditioned Trains

To meet a further demand for air-cooled cars, the Baltimore and Ohio Railroad Company has added air conditioning equipment to two more of its trains between Washington and New York, one leaving Washington daily at 9:10 A. M., the other leaving New York (Jersey City) at 9:30 A. M. Trains No. 6 and No. 523 will be equipped with air-conditioned cars, consisting of smoking lounge car, parlor cars, individual seat coaches and Colonial dining car. The first B. & O. air-conditioned train between Washington and New York was the "Columbian," which started May 24.

### Manager Merchandising Committee

The Republic Rubber Company, Youngstown, Ohio, announces through O. S. Dollison, vice-president, that R. M. Gattshall, advertising manager, has been granted a year's leave of absence effective August 1, to become executive manager of the Joint Merchandising Committee of the Triple Supply and Machinery Association, consisting of the American Supply and Machinery Manufacturers Association, the Southern Supply and Machinery Distributors Association and the National Supply and Machinery Distributors Association.

### Northern Engineering Representatives

The Northern Engineering Works, Detroit, Mich., announces appointment of R. E. Condit, with offices at 901 East Third street, Dayton, Ohio, and at 705 Gwynne Building, Cincinnati, as representative in the Dayton, Cincinnati and Columbus districts in Ohio, for sale and distribution of Northern traveling cranes, electric hoists and other equipment of the company's manufacture. The Hill Equipment Engineering Company, 4620 Delmar boulevard, St. Louis, Mo., has been appointed representative in that district.

### Standard Gas & Electric Statement

Combined net earnings of subsidiary and affiliated companies of the Standard Gas & Electric Company, Chicago, for 12 months ended May 31, 1931, showed a decrease of 2.39 per cent, as compared with the previous 12 months. Gross earnings amounted to \$151,185,620 as compared with \$155,404,196, and net earnings, \$73,126,798, as compared with \$74,921,058. Gross earnings of the Louisville Gas & Electric Company, a subsidiary, amounted to \$10,792,275 for the period, as compared with \$10,387,064 for the year ended May 31, 1930, and net earnings were \$5,719,070, as compared with \$5,411,580. Another subsidiary, the Oklahoma Gas & Electric Company had gross earnings of \$18,251,341, as compared with \$14,599,953, and net earnings of \$6,112,617, as compared with \$6,811,075.

### Gardner-Denver Representative

The Texas Contractors Supply Company, Waco, Tex., active in contracting, engineering and oil field circles, will represent the Gardner-Denver Company, Quincy, Ill., on all rock drill products and portable compressors.

### Study of Citrus Fruit Problems

**Winter-Haven, Fla.**—A new citrus by-products laboratory is expected to be completed here in August, according to Dr. W. W. Skinner, assistant chief of the chemical and technological unit of the Bureau of Chemistry and Soils of the United States Department of Agriculture. Upon its completion, Federal chemists plan to start work on important problems affecting the Florida citrus industry, among which are methods of preserving orange and grapefruit juices, of developing orange and grapefruit by-products and of utilizing orange and grapefruit wastes as stock and poultry feed. The laboratory will be in charge of H. H. von Loescke, senior chemist of the unit, and formerly research chemist in charge of by-products and biochemical research for the United Fruit Company at Boston, Mass.

### Plans \$300,000 Expenditure

**Tampa, Fla.**—The Tampa Bay Ferry Co. plans to expend \$300,000 for improving its facilities and service. According to President Charles R. Carter, two miles of causeways and piers will be built to deep water to permit boats to operate at maximum speed, and two new high speed boats with lounges and recreational decks will be acquired. The company plans to award contract for one boat at once, so that it may be ready for operation by the fall. Fill and piers will be of permanent construction and will form the first link in a continuous vehicular highway across the bay from St. Petersburg to Manatee County, which the company plans ultimately to build under its franchise.



Photo by R. I. Nesmith &amp; Associates

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## NORFOLK-PORTSMOUTH INDUSTRY GROWS

### Value of Shipping in First Half of 1931

Increased \$4,000,000 Over Similar Period Last Year

Norfolk, Va.—Because of a notable increase in shipping in the Norfolk-Portsmouth area during the first six months of 1931, combined with favorable reports on industrial developments and the recovery of building activity in that period, business leaders of the district are optimistic over future prospects, according to the Norfolk-Portsmouth News Bureau. The value of shipping handled in the Norfolk-Portsmouth harbor from January 1 to June 30, 1931, including imports and exports, was estimated at \$54,501,239, an increase of nearly \$4,000,000 as compared with the corresponding period last year. Of several new industrial projects launched during the period, one of the most important was the purchase of the plant of the Portsmouth Cotton Oil Company by the Procter & Gamble Co., Cincinnati, Ohio. While building was on the decline in Norfolk during the early months of the year, construction activity was renewed in the latter part of the six-month period and particularly in June when an increase of more than \$100,000 was reported over the corresponding month last year. Local building for the period, with Government improvements at the Naval Base involving more than \$1,000,000, showed a large increase over the first six months of 1930.

H. M. Thompson, executive manager of the Hampton Roads Maritime Exchange, says the shipping movement is "holding up" and points out that while many ports suffered a set-back in tonnage handled, there was no such noticeable decline here. It is pointed out that minor factors contributing to the port's good business include a solid shipment of raw sugar imported from Cuba to England, consisting of 32,080 bags or 4000 tons; a shipment of 120,000 barrels of whale oil unloaded at Portsmouth for the Procter & Gamble Co., valued at \$2,500,000; an unusual coastwise movement of coal, and the importation of several cargoes of manganese ore from the west coast of Africa.

The recent inauguration here of mail-passenger-freight service by the Baltimore Mail Steamship Company will stimulate trade, according to Mr. Thompson, and will give the port a better opportunity to compete for the handling of certain higher classes of cargoes. Another stimulus to local shipping is expected from the recent opening of the Virginian Railway bridge at Deepwater,

W. Va., which opens a new link with the New York Central Lines.

Industrial developments in the first six months of the year represent considerable endeavor on the part of the Industrial Commission of the Norfolk-Portsmouth Chamber of Commerce. R. J. Throckmorton, chairman, Norfolk Weavers, Inc., were incorporated through the work of the commission, local business men subscribing \$25,000 to the enterprise. The new company took over the plant of the Amalgamated Silk Corp. and employs 180 operatives. The purchase of the Percy Kent Bag Co. by the Bemis Bro. Bag Co. was also accomplished during the period. Government projects undertaken at the Naval Base include five new barracks to

cost \$478,000, reconstruction of a pier to cost \$548,000 and other work to cost \$100,000.

### Factories Working Overtime

Lynchburg, Va.—To meet a demand for increased production, the shoe factories here of the Craddock-Terry Co. have been forced to procure operatives outside of Lynchburg. Approximately 200 operatives have been added in the past month to one department and an additional 100 will be employed. Plans have been made for transporting by bus 50 women to and from Altavista. Similar arrangements may be made to obtain operatives from other towns.

## Terracing to Save Texas Soil

The Missouri-Kansas-Texas Railway Employes' Magazine for July tells how its agricultural agent co-operates with State and Federal authorities in restoring fertility along the Katy lines in Texas. The article refers to the fact that 11,000,000 acres of black lands in Central Texas produce most of the cotton and other agricultural products hauled by its lines in that state. During the last 20 years the production of cotton in this section has dropped 40 per cent, due to leaching of plant foods from the soil by erosion. This is a condition that has given concern to all agricultural authorities, including the Katy agricultural agent, R. Reece, of Dallas, who lately joined with state and federal authorities in Texas to provide a correction for this condition.

### New Law Opens Way

Experiments in terracing have demonstrated this method to be one of the best in preventing soil erosion and by an act of Texas Forty-second Legislature, recently adjourned, commissioners courts were authorized to permit the use of county road building machinery in constructing terraces on farms for the purpose of conserving soil, plant food and soil moisture. Operating costs are to be paid by the farmer when he pays taxes on his land.

Officials of the Katy, describing this legislation as the most forward step taken by any state in stopping these losses, instructed its agricultural department to conduct a campaign in M-K-T territory acquainting farmers, land owners and county officials with the provi-

sions and operation of this law. Mr. Reece obtained the co-operation of the Texas A. & M. College, the State Department of Agriculture and the Federal Land Bank in a terracing campaign to be conducted this summer.

Active co-operation in the M-K-T campaign is pledged by the following: J. E. McDonald, commissioner of agriculture; M. R. Bentley, terracing specialist of the A. & M. College; A. K. Short, terracing specialist of the Federal Land Bank, and C. C. Davis, director of vocational teaching. A letter has been addressed by Mr. Bentley to all county agents where the work will be carried on outlining the M-K-T program and urging co-operation in the demonstrations. In addition the Texas farm press is helping by giving publicity to the program.

### Campaign in 24 Counties

The campaign will be conducted in 24 Katy counties and will extend through five weeks counting July 6. In each county one farm at least will be terraced. Large road graders and large caterpillar tractors will be used in constructing the terraces, and instruction will be given in operation of these machines.

The end of June saw the work of arranging dates for demonstrations completed. At the preliminary meetings A. K. Short and Mr. Reece met with farm leaders in each county, including the county judge, the secretary-treasurer of the farm loan association, the county farm agent, agricultural teachers and bankers. Here final plans for the demonstrations were made.

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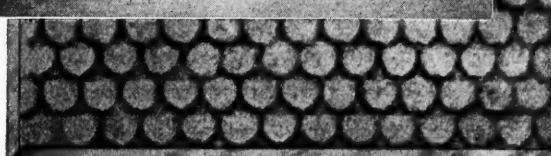
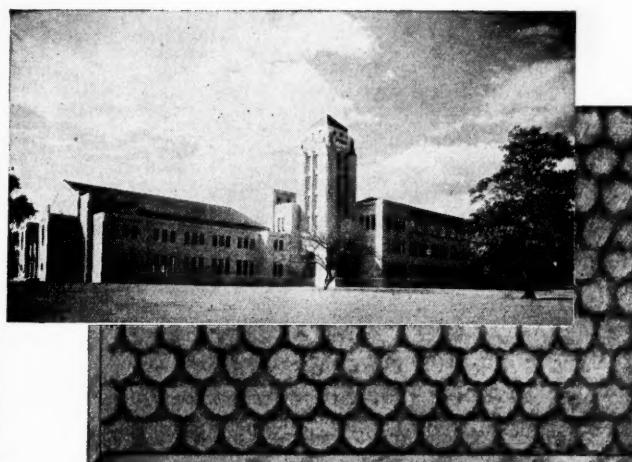
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## FINANCIAL NEWS

### Bond Issues Proposed

Ala., Mobile—City Comsn. rejected bids for \$150,000, 5% bonds; \$100,000 sewer and \$50,000 waterworks. 7-16

Ala., Mobile—City rejected bids for \$150,000, 5% bonds. 7-16

Ala., Montgomery—State, House of Representatives voted to submit to voters Garrett bill providing constitutional amendment for \$25,000,000 highway bond issue. 7-9

Ala., Tuscaloosa—City voted \$150,000 sewerage system bonds.

Ark., Mena—Comms. of Local Improvement Dist. authorized to sell bonds for concrete pavement.

Ark., Monticello—Drew County, W. E. Spencer, County Judge, opens bids Aug. 6 for \$1000 denom., 5% courthouse bonds.

Fla., Bartow—Eagle Lake Special Tax School Dist. No. 9, Hugh W. Wear, Chmn., Bd. of Public Instruction, opens bids Aug. 10 for \$10,000, 6%, \$500 denom. bonds.

Fla., Coral Gables, Miami—City, Vincent D. Wyman, Mayor, plans issuing \$4,000,000 new Class A 6% and \$5,000,000 contingent Class B bonds for refunding entire \$9,000,000 bonded and floating debt of city.

Ga., Brunswick—City may vote on \$150,000 airport bonds.

Ga., Dalton—Valley Point Consolidated School Dist. votes Aug. 21 on \$25,000 bonds.

Ga., Sale City—Sale City Consolidated School Dist. call another election on \$25,000 school bonds; action taken because bonds previously authorized failed of validation at court hearing. 6-4

La., Gretna—City Council call for new bids for \$150,000 sewerage-extension bonds; recent sale found illegal. 6-11

La., Ruston—City voted \$180,000 bonds for gas system.

Mo., Centerville—Reynolds County voted \$60,000 funding bonds.

Mo., Webb City—City, L. O. Walker, Clk., opens bids Aug. 3 for \$13,500, 5% funding bonds. 6-25

Md., Easton—City, Mayor and City Council, deferred sale of \$45,000 waterworks bonds for one year. 7-9

Md., Rockville—Montgomery County Commsn., Berry E. Clark, Clk., opens bids Aug. 4 for \$100,000 bonds; \$70,000, 4% police force deficiency; \$30,000, 4½% police station funding.

Mo., Huntsville—City plans \$25,000 waterworks bond election.

Mo., Waynesville—City voted \$21,000 waterworks bonds.

Mo., Webb City—City, L. O. Walker, Clk., rejected bids for \$13,500 funding bonds. 6-25

N. C., Asheboro—Randolph County Bd. of Comms. recently passed resolution for issuance of \$175,000 funding bonds.

N. C., Charlotte—Local Government Comsn., Raleigh, tentatively approved \$135,000 school funding bonds; J. B. Pridgen, City Mgr.

N. C., Durham—City Council, reported, soon call for bids for \$50,000 sewer bonds.

N. C., Charlotte—City Council authorized School Bd. to issue \$135,000 bonds to take care of deficit.

N. C., Gastonia—City sold \$100,000 tax anticipation notes to State Planters Bank & Trust Co., Richmond, Va., as 4½%, at par.

N. C., Winston-Salem—Forsyth County Comms. passed order authorizing issuance of \$30,000 bonds for refunding outstanding school bonds.

Okl., Oklahoma City—City, T. A.蒙古, Clk., reported, may vote on \$1,000,000 city hall bonds.

Okl., Wagoner—City voted \$90,000 bonds for drainage work.

S. C., Greenville—Greater Greenville Sewer Comsn., E. D. Fry, Supt., rejected all bids for \$610,000 water and sewer bonds. 7-16

S. C., Spartanburg—City, I. T. Williams, City Treas., opens bids Aug. 4 for \$500,000, \$1000 denom. funding bonds; rate of interest to be fixed by purchaser and accrued interest to be paid by purchaser. 7-23

Tenn., Athens—City authorized by Legislature to issue \$200,000, not to exceed 6% water bonds.

Tenn., Bolivar—City authorized by Legislature to issue \$16,000, not to exceed 6%

warrants and bonds: \$8000 warrants to take up outstanding school warrants; \$8000 outstanding indebtedness bonds, \$500 denom.; Mayor and Bd. of Aldermen to have charge of sale.

Tex., Brownsville—Cameron County, Judge Oscar C. Dancy, plans issuing \$200,000 bonds for paved road along Boca Beach.

Tenn., Clarksville—City authorized by Legislature to issue \$67,000, not to exceed 5% floating indebtedness bonds; denominations \$1000, \$500 or \$100; not to be sold for less than par.

Tenn., Clarksville—Montgomery County authorized by Legislature to issue \$100,000, not exceeding 6% right-of-way bonds.

Tenn., Cookeville—City authorized by Legislature to issue \$30,000, \$1000 denom., not to exceed 6%, water and light notes.

Tenn., Elizabethton—Carter County Court called election to be held in September on \$65,000 school building and repair bonds.

Tenn., Greeneville—Greene County authorized by Legislature to issue not exceed 5½% tax anticipation bonds in amount not to exceed balance of revenue for current year.

Tenn., Linden—Perry County Court voted to issue \$30,000 refunding bonds.

Tenn., Murfreesboro—City authorized by Legislature to issue \$115,000, not to exceed 6% funding bonds; City Council to have charge of sale; not to be sold for less than par.

Tenn., Nashville—State Funding Bd., Idalee Richardson, Sec., reported, authorized by Legislature to issue \$14,500,000 bonds: \$5,000,000, state funding; \$9,000,000, state funding, and \$500,000, not to exceed 5% Western State Hospital.

Tenn., Rogersville—City authorized by Legislature to issue \$20,000 current revenue warrants.

Tenn., Sevierville—Sevier County authorized by Legislature to issue \$100,000, not to exceed 5% airport, game preserve and other civic enterprise bonds.

Tenn., Sevierville—City authorized by Legislature to issue \$150,000 bonds: \$90,000 water and sewer, not to exceed 6%, \$1000 denom., not to be sold for less than par; \$40,000 airport and civic improvement, not to exceed 5%, to be sold on competitive bidding, in such denominations and manner as Mayor and Aldermen may direct; \$20,000, not exceed 6% street bonds; to be sold by Mayor and Aldermen for not less than par.

Tex., Baird—Callahan County Road Dist. No. 1 votes Aug. 15 on \$15,000 bonds.

Tex., Canyon—City, Harvey Cash, City Sec., defeated \$10,000 park bonds. 7-2

Tex., Dallas—City, E. Goforth, City Sec., sell \$500,000 street improvement bonds at once.

Tex., Dallas—City Plan Comsn. approved sale of \$800,000 bonds for street widening and extension during coming year.

Tex., Dumas—Moore County Sirray School Dist. No. 4 recently voted \$12,000 school building bonds.

Tex., Edna—Jackson County Road District, Jno. T. Vance, County Judge, opens bids Aug. 3 for \$193,000, 5½% road bonds: \$73,000 Dist. No. 3, \$500 denom.; \$120,000 Dist. No. 4, \$1000 denom.

Tex., El Paso—El Paso County plans election on public improvement bonds.

Tex., Karnes—Karnes County Yates Creek School Dist. voted \$10,000 school building bonds.

Tex., Longview—Gregg County Comms. Court called election for Aug. 18 on \$850,000 bonds: \$200,000 for courthouse and jail and \$60,000 for roads.

Tex., Morton—Cochran County, D. T. Smith, Clk., opens bids Aug. 3 for \$100,000 road bonds.

Tex., Palestine—City votes Aug. 24 on \$20,000 school, public improvement and athletic field bonds. 7-23

Tex., Rockport—City, G. T. Barnard, City Sec., did not sell \$30,000, 6% refunding bonds as no satisfactory bids were received. 7-16

Tex., Snyder—Scurry County Comms. plan issuing \$126,000 bonds; \$75,000 general funds; \$51,000 road and bridge fund.

Tex., Texarkana—City votes Aug. 18 on \$20,000 airport improvement bonds.

Tex., Woodville—Tyler County Warren School Dist. voted \$30,000 school bonds.

W. Va., Martinsburg—City voted \$100,000 water bonds.

### Bond Issues Sold

Ark., El Dorado—Union County sold \$99,882, 6% bonds to retire general county indebtedness to National Security Co., Little Rock, and \$20,650, 6% bonds to refund road and indebtedness to First National Bank, El Dorado.

Ark., Little Rock—Pulaski County Bd. of Education, D. T. Henderson, County Supt. of Schools, sold \$59,000 bonds to W. B. Worthen & Co., Little Rock.

Ga., McDonough—City, W. J. Greer, City Clk. and Treas., sold \$35,000, 5%, \$1000 denom. street improvement bonds to First National Co., Atlanta, at \$35,760. 7-2

Ky., Covington—City Comms. sold \$142,000 coupon asphalt street improvement refunding bonds to Breed & Harrison, Inc., Cincinnati, and associates, as 4½%, paying \$443 premium.

La., New Iberia—City, Joseph A. Daigre, Mayor, sold \$2,016 paving bonds to New Iberia National Bank, People's National Bank and State National Bank, all New Iberia, jointly, at \$97.84. 7-16

Miss., Hattiesburg—Forrest County sold \$150,000 bonds to First National Bank, Hattiesburg, at \$149,363.

Miss., Jackson—City sold \$190,600 refunding bonds to Hibernia Securities Co., New Orleans, \$40,600, at 4¾% interest, and \$150,000, at 5%; \$3300 premium on the two issues.

N. C., Greensboro—Guilford County sold \$369,000 notes to Greensboro Bank Securities Co.: \$319,000 various purposes revenue anticipation notes, as 5½%, plus \$17 premium; \$50,000 current county expense notes, as 6%, at par.

N. C., Oxford—Granville County sold \$15,000 notes to First National Bank of Granville.

N. C., Raleigh—State, Nathan O'Berry, State Treas., sold \$900,000 North Carolina bonds to Page Trust Co., Raleigh, as 4s, at par, at private sale. 7-9

N. C., Raleigh—Wake County, reported, sold \$600,000 notes to Thompson, Ross & Co., Chicago, Ill., as 6s.

N. C., Waynesville—Haywood County sold \$65,000 funding bonds, through Local Government Comms., Chas. M. Johnson, Sec., Raleigh, to J. R. Boyd, Waynesville, at 6%, par plus \$162.45 premium.

Okl., Kinta—Kinta School Dist. sold \$10,-

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000 coupon bonds to R. J. Edwards, Inc., Oklahoma City, at par.

Okl., Oklahoma City—Oklahoma County School Dist. No. 53 sold \$12,000 bonds to Calvert & Canfield, as 5 1/4s, at 100.01.

S. C., Columbia—State, J. H. Scarborough, State Treas., sold \$5,000,000 1-year notes to syndicate composed of Halsey, Stuart & Co., Inc., Chicago, Ill.; Bancamerica-Blair Corp., A. B. Leach & Co., Inc., Geo. B. Gibbons & Co., Inc., Darby & Co., Batchelder & Co., all New York; Stix & Co., St. Louis, Mo., American Securities Co., Denver, Col.; First Securities Corp. of Minnesota; William R. Compton Co., St. Louis, Mo.; Wells-Dickey Co., Minneapolis, Minn.; Peoples National Bank, Rock Hill, S. C.; Citizens & Southern Co., Savannah, Ga.; J. H. Hilsman & Co., Inc., Atlanta, Ga., and G. H. Crawford Co., Inc., Columbia, S. C., at 100.035 for 3 1/2% obligations; rejected bids for \$5,000,000 long-term bonds. 7-16

Tenn., Lynchburg—Moore County recently sold \$22,000, 6% high school bonds to Equitable Securities Corp., Nashville, at 101. 7-16

Tenn., Maryville—City, Bd. of Commrs., W. H. Willard, Recorder, sold \$28,000, \$1000 denom. bonds to Joseph, Hutton & Estes, Memphis, at par; \$9000, 5% general improvement; \$19,000, 5% street improvement. 7-16

Tex., Brownsville—Brownsville Independent School Dist. sold \$80,000, 5%, \$1000 denom. bonds to A. C. Allyn & Co., Chicago. 7-9

Tex., Freeport—City, E. C. King, City Sec., sold \$15,000, 5 1/2% refunding bonds to J. R. Phillips Investment Co., Houston. 7-16

Tex., Leakey—Real County Road Precinct No. 3, reported, sold \$85,000 bonds to Van H. Howard Co., San Antonio, at par. 6-11

Tex., Plainview—City, reported, sold \$80,000, 5 1/2%, \$1000 denom. refunding bonds to Brown-Crummer Co., Wichita, Kans.

Tex., San Antonio—City, C. M. Chambers, Mayor, reported, sold \$1,100,000, 4 1/2% funding bonds to Geo. L. Simpson & Co., Dallas. 7-23

### New Financial Corporations

Ark., Jonesboro—Alex. M. Berger, R. E. Townsend and associates plan bank with \$100,000 capital.

Mo., Kansas City—Sight Bros. Finance Corp., capital \$50,000, chartered; Jack Sight, 5800 Rockhill Road.

Mo., St. Joseph—Martin Investment Co. chartered; J. L. Bear, Ballinger Bldg.

Okla., Ponca City—Ponca Industrial Finance Corp., capital \$100,000, chartered; Joseph C. Miller, H. C. Baughman.

Tenn., Jefferson City—Commercial Savings & Loan Bank, capital \$50,000, chartered; John S. Henry, Clyde Harman.

Tex., Gladewater—First National Bank, capital \$25,000, Carl B. Everett, applied to Treasury Dept., Office of Comptroller of Currency, Washington, for permission to organize.

Texas County State Bank, J. M. Gladden, Pres., both Houston, Mo., merged; Kirby Lamar will head new institution.

Fred H. Eyler and E. K. Corrigan purchased controlling interest in Drovers & Merchants Bank, R. D. Head, Pres., St. Joseph, Mo.

### Chesapeake and Ohio Report

A report of the Chesapeake and Ohio Railroad Company for June 1931, shows gross revenues of \$10,495,700, a decrease of \$860,502 as compared with June, 1930; operating expenses, \$6,044,471, a decrease of \$1,127,041; net operating income, \$3,567,889, an increase of \$268,798; net income after all charges, \$2,788,787, an increase of \$67,616, and operating ratio of 57.6 per cent, as compared with 63.1 per cent for June of last year. For six months ended June 30, 1931, gross revenues were \$59,009,701, a decrease of \$9,087,366; operating expenses, \$37,943,756, a decrease of \$7,144,537; net operating income, \$15,930,511, a decrease of \$2,401,193; net income after charges, \$11,867,150, a decrease of \$3,098,578, and operating ratio of 64.3 per cent, a decrease of 1.9 per cent as compared with the same period a year ago.

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**Mill Plans Increased Output**

Marion, N. C.—Plans are being made by the Marion Knitting Mill, Inc., to increase its output from 1000 to 1500 dozen pairs of hose daily, in order to keep pace with its orders, according to W. W. Neal, president and treasurer of the company. Fourteen new ribbers and 51 new knitting machines are being installed in an extension, 40 by 40 feet, 2 stories and basement, recently built. The additional facilities are expected to be ready for operation about August 1, when 75 additional operatives will be employed, bringing the total force to 200.

**Hosiery Mills Enlarging**

High Point, N. C.—The Melrose Hosiery Mills have under construction here a 2-story addition to their plant, 40 by 70 feet, which is expected to be completed within two weeks. The first floor will be used as a boarding room and the second floor as a looping room. Within the past few weeks the company has installed, and is now operating, twenty-five 300-needle machines, Scott & Williams model K, purchased in Philadelphia, Pa.; thirty-one 220-needle model

HH machines purchased in Thomasville, N. C., and thirty-nine 260-needle model K machines purchased in Durham, N. C.

**\$19,000,000 BRIDGE BIDS****Open Proposals Next Month on New Orleans Project**

New Orleans, La.—Following a conference at Baton Rouge with representatives of the New Orleans Public Belt Railroad Commission and interested railroads, Governor Huey P. Long announced that bids would be opened September 15 in the New Orleans City Council chamber for construction of a \$19,000,000 Public Belt and highway bridge across the Mississippi River at Nine-Mile Point, New Orleans. The state's share of the cost of the structure will be \$7,000,000. It is understood that construction work will be awarded in four contracts—No. 3 for the substructure of the main bridge; No. 4 for the superstructure of the main bridge; No. 5 for the substructure of the approaches, and No. 6 for the superstructure of the approaches. Modjeski, Masters & Chase, New York, are the engineers. Frank H. Joubert is secretary-treasurer and general manager of the Public Belt Railroad Commission.

**Louisiana's Fruit and Vegetable Industry**

"Our fruit and vegetable industry is making real progress" states a bulletin of the Louisiana farm extension service. "A remarkable improvement has occurred in the short period of four years." During the first six months of this year Louisiana shipped 13,425 carloads of fruits and vegetables, which is a considerably greater quantity than has been shipped in any full year previously. Quality also has showed considerable improvement. A few years ago Louisiana was shipping ungraded and uninspected products to northern markets. In the first six months this year, 11,795 cars received state-federal inspection.

**\$14,500,000 Tennessee Notes**

Nashville, Tenn.—Bills recently passed by the Legislature authorize the issuance of notes aggregating \$14,500,000, to bear an interest rate not to exceed 5 per cent. These securities include \$5,000,000 state funding notes to be due in not more than 20 years; \$9,000,000 state funding notes, and \$500,000 Western State Hospital notes.



**Hotels of Distinction**

**mayfair**

8th and st. charles

**Lennox**

9th and washington

**in st. Louis**

**I**n the center of shopping and theatre district. Bed lamp, floor lamp . . . hand-set telephone, fans, circulating ice water, in every room. Club meals, Garage Service, Coffee Shop. Room and Bath \$3.00 to \$4.50



**NO-NOX  
ETHYL**  
**Stops Knocks**

...eliminates even the faintest click or ping. This assures a lightning getaway in traffic with a smooth fast pick up—makes traffic a pleasure.

At the Sign of the Orange Disc

NO-NOX ETHYL has an extremely low end point which gives it an instant vaporizing quality for quick easy starting on coldest days.

**GULF REFINING CO.**

# BUSINESS REVIVAL

## Advertising Will Help It

**D**EPRESSION does not mean complete business cessation. There is still a great deal of buying. One evidence is the volume of building, engineering and contracting awards in the South and Southwest during the first six months of this year—\$384,000,000.

What this country needs today and has needed for a number of months is more advertising by business interests.

There is just as much money in this country as ever. Business recovery cannot be induced by letting it lie idle. People who can spend, should spend, and especially now when prices are lower than for a long time. Building can be done more cheaply than for years. Pent up surpluses should be released; and this can be hastened by advertising, which will persuade firms and individuals to buy the commodities entering our industrial, commercial and everyday lives.

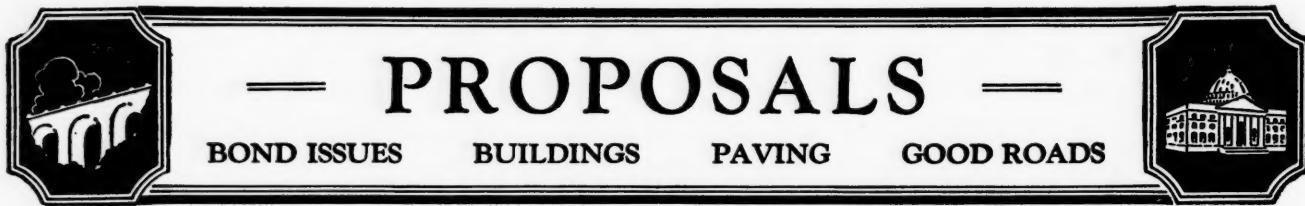
Every sign of the times is being expectantly examined for improved conditions. An increase in advertising would be an encouragement; and with confidence restored, men would spend and invest and then the country would soon be in the midst of prosperity.

The South and Southwest, already active comparatively, will probably lead the advance of the country to recovery, and manufacturers of industrial machinery and materials would do well now to advertise for this trade with renewed vigor.

The MANUFACTURERS RECORD for fifty years has been recognized as the business authority of the Southern and Southwestern states. It is the most widely quoted industrial paper in the world.

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Bids close August 17, 1931.

War Department, Office Constructing Quartermaster, Fort Bragg, N. C. Sealed Proposals in triplicate will be received until 10:00 A. M., August 17, 1931, and then publicly opened, for the construction and completion of a monument at Cowpens Battlefield, Ezell, S. C. \$10.00 deposit certified check, payable to Treasurer of United States, required for plans and specifications. A certified check or Bid Bond in the amount of \$1200.00 will be required with each proposal. Further information on request.

Bids close August 20, 1931.

Office of the Architect of the Capitol, Washington, D. C., July 21, 1931. SEALED BIDS will be opened in this office at 3 P. M. August 20, 1931, for the installation of a street and park lighting system as part of the enlargement of the Capitol Grounds. The proposed work will provide street lighting for about 15 squares. Drawings and specifications, not exceeding three sets, may be obtained of the Architect of the Capitol, in the discretion of said Architect, by any satisfactory general contractor. A deposit in the form of a check for \$20.00, made payable to the order of David Lynn, Architect of the Capitol, will be required for each set of drawings and specifications to insure their return in good condition. David Lynn, Architect of the Capitol.

Bids close August 19, 1931.

Office of the Architect of the Capitol, Washington, D. C., July 22, 1931. SEALED BIDS will be received in this office until 3 P. M., Eastern Standard Time, August 19, 1931, and then publicly opened, for the furnishing and installing of an underground lawn sprinkling system in part of the U. S. Capitol Grounds east of the Capitol Building. Drawings and specifications, not exceeding two sets, may be obtained at the office of the Architect of the Capitol, in the discretion of said Architect, by any satisfactory contractor experienced in this class of work. A deposit in the form of a check for \$25.00, made payable to the order of David Lynn, Architect of the Capitol, will be required for each set of drawings and specifications to insure their return in good condition. David Lynn, Architect of the Capitol.

Bids close August 4, 1931.

#### Bascule Bridge

DEPARTMENT OF PUBLIC WORKS  
STATE OF MARYLAND  
STATE ROADS COMMISSION

#### NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for construction of Bridge as follows:  
Worcester County, Contract No. Wo-69-17—  
Single leaf, bascule bridge, together with the bascule pier, approach span, operator's house, electrical equipment, machinery, etc., over the Pocomoke River at Snow Hill

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Streets, Baltimore, Maryland, until 12 M on the 4th day of August, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans, will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check, payable to the State Roads Commission of Maryland, as required by Sec. 6, Chapter 539, Acts of 1931, of the amount as set forth in the proposal form.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 14th day of July, 1931.

G. CLINTON UHL, Chairman.

L. H. STEUART, Secretary.

Bids close August 21, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., July 23, 1931.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., August 21, 1931, for furnishing all labor and materials and performing all work for construction (except elevators and foundations) of the U. S. post office and court house at Trenton, N. J. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding six sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$50.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close August 25, 1931.

#### Bridges

Baton Rouge, La.

Sealed proposals for the construction of the following Projects will be received by the Louisiana Highway Commission, Room No. 614, Louisiana National Bank Building, Baton Rouge, Louisiana, until 9:45 A. M. on Tuesday, August 25, 1931. Proposals will not be received after this hour. At 10:00 o'clock A. M. of the same day and date they will be publicly opened and read in the Chamber of the Senate in the State Capitol Building.

(BOND) PROJECT NO. 3403, OVERPASS C. R. I. & P. R. R., JONESBORO-TANNEHILL HIGHWAY, located in Jackson Parish, Route No. 5.

DESCRIPTION: One 47-foot Combination I-Beam Span and eight 19-ft. Combination I-Beam Spans on creosote piling, 24 ft. roadway. Approximate quantities of the principal items involved are: Reinforcing Steel, 22,000 pounds; Fabricated Structural Steel, 94,000 pounds; Creosoted Lumber, 10.0 M. ft. B. M.; Creosoted Piling, 2630 linear feet; Class "AA" Concrete, 120 cubic yards. Charges for Plans, \$2.50.

(BOND) PROJECT NO. 3602, OVERPASS I. C. R. R., BATON ROUGE-NEW ORLEANS HIGHWAY, located in Jefferson Parish, Route, Airline.

DESCRIPTION: Thirteen 40-ft. Reinforced Concrete Deck Girder Spans on concrete piling, 40 ft. roadway. The approximate quantities of the principal items involved are: Class "AA" Concrete, 1170 cubic yards; Class "A" Concrete, 350 cubic yards; Reinforcing Steel, 355,000 pounds; Fabricated Structural Steel, 35,000 pounds; 14 in. Concrete Piling, 1500 linear feet; 18 in. Concrete Piling, 9100 linear feet. Charges for Plans, \$3.00.

(BOND) PROJECT NO. 3607, CAMINADA BAY BRIDGE, GOLDEN MEADOW-GRAND ISLE HIGHWAY, located in Jefferson Parish, Route No. 620.

DESCRIPTION: One hundred and ninety 19-foot Creosoted Pile Trestle Spans and one 35-foot I-Beam Span, Roadway width, 21 feet. Approximate quantities of the principal items involved are: Creosoted Lumber, 770 M. F. B. M.; untreated lumber, 60 M. F. B. M.; Creosoted Piling, 29,000 lin. ft.; asphalt wearing surface, 8100 sq. yds. Charges for Plans, \$3.00.

(BOND) PROJECT NO. 3806, BAYOU LAFOURCHE BRIDGE, GOLDEN MEADOW-GRAND ISLE HIGHWAY, located in Lafourche Parish, Route No. 620.

DESCRIPTION: One 160-foot swing span supported on creosoted piles capped with concrete and eight nineteen-foot (19') creosoted pile trestle approach spans. Roadway width, 20 feet. Approximate quantities of the principal items involved are: Class "A" Concrete, 115 cu. yds.; Reinforcing Steel, 5200 pounds; Fabricated Structural Steel, 200,000 pounds; Creosoted Lumber, 60 M. F. B. M.; Creosoted Piling, 3400 lin. ft.; Asphalt Planks, 6400 square feet. Charges for Plans, \$3.00.

(BOND) PROJECT NO. 4800, ATCHAFLAYA RIVER BRIDGE AT KROTZ SPRINGS ON THE PORT ALLEN-OPELOUSAS HIGHWAY, located in Pointe

Coupee and St. Landry Parishes, Route No. 7.

DESCRIPTION: Three 500-foot fixed spans on concrete piers, twenty-one 60-foot I-Beam spans on timber piers, 24-foot roadway. Approximate quantities of the principal items involved are: 30,000 cu. yds. structural excavation, 1600 cu. yds. Class "AA" Concrete, 19,900 cu. yds. Class "A" Concrete, 6800 cu. yds. Class "B" Concrete, 1,184,000 lbs. Reinforcing Steel, 5,200,000 lbs. Structural Carbon Steel, 1,470,000 lbs. Structural Silicon Steel, 58 M. F. B. M. Creosoted Lumber, 16,620 lin. ft. Creosoted Timber Piles. Charges for Plans, \$20.00.

(BOND) PROJECT NO. 6004, ATCHAFLAYA RIVER BRIDGE AT MORGAN CITY ON THE FRANKLIN-MORGAN CITY HIGHWAY, located in St. Mary Parish, Route No. 2.

DESCRIPTION: Three 608-foot fixed spans on concrete piers, two 126-foot deck truss on concrete piers, thirty-five 40-foot reinforced concrete deck girders on concrete bents, 24-foot roadway, one 6-foot sidewalk. Approximate quantities of the principal items involved are: 23,470 cu. yds. Structural Excavation, 4300 cu. yds. Class "AA" Concrete, 13,500 cu. yds. Class "A" Concrete, 7700 cu. yds. Class "B" Concrete, 1,685,000 lbs. Reinforcing Steel, 4,727,000 lbs. Structural Carbon Steel, 4,453,000 lbs. Structural Silicon Steel, 24,500 ft. untreated timber piles, 7300 sq. yds. concrete pavement. Charges for Plans, \$20.00.

Full information and proposal forms are available at the offices of the Highway Commission at Baton Rouge. Plans and Specifications may be inspected there or will be furnished upon payment of the amounts specified above (not to be re-funded).

HARRY B. HENDERLITE,  
State Highway Engineer.  
O. K. ALLEN, Chairman,  
Louisiana Highway Commission.

Bids close August 4, 1931.

#### Bridge Construction and

#### Alterations

DEPARTMENT OF PUBLIC WORKS  
STATE OF MARYLAND  
STATE ROADS COMMISSION

#### NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for construction of bridge; extensions and alterations to bridges as follows:

Carroll County, Contract No. CI-99-511—Single 8-foot span concrete slab bridge adjacent to the existing bridge on the Littlestown Pike, 0.5 mile north of Union Mills over a branch of Big Pipe Creek

Montgomery County, Contract No. M-170-311—Extensions and alterations to three bridges on the Rockville Pike between Bethesda and Rockville, these bridges being located 0.7, 1.4 and 1.8 miles north of Bethesda

Wicomico County, Contract No. Wi-61-17—Alterations and timber floor on existing bridge over the Nanticoke River at Sharptown

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Streets, Baltimore, Maryland, until 12 M. on the 4th day of August, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans, will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check, payable to the State Roads Commission of Maryland, as required by Sec. 6, Chapter 539, Acts of 1931, of the amount as set forth in the proposal form.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 21st day of July, 1931.

G. CLINTON UHL, Chairman.  
L. H. STEUART, Secretary.

Bids close August 18, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., July 24, 1931.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., August 18, 1931, for furnishing all labor and materials and performing all work for the remodeling and enlarging of the U. S. post office at Dalton, Ga. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding one set, may be obtained by any satisfactory general contractor at this office, in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close September 15, 1931.

### Railroad and Highway Bridge STATE OF LOUISIANA

AND  
CITY OF NEW ORLEANS

New Orleans, La., July 21, 1931.

Sealed proposals will be received by the State of Louisiana, acting through the State Advisory Board, represented by its Chairman, Huey P. Long, and the City of New Orleans, acting through the Public Belt Railroad Commission, represented by its President, T. Semmes Walmsley, at the Council Chamber in the City Hall, New Orleans, La., until two P. M. (Central Standard Time), TUESDAY, SEPTEMBER 15, 1931, for the construction of combined railroad and highway bridge across the Mississippi River above New Orleans.

The approximate quantities of work to be performed under four contracts are given below:

Contract No. 3—Substructure—Main Bridge.

Borings 3075 lin. ft.

Caisson Foundations 133,700 cu. yds.

Concrete Footings.

Pedestals and Shafts 45,000 cu. yds.

Granite Facing 2200 cu. yds.

Excavation other than Caisson 14,900 cu. yds.

Gravel Fill 1150 cu. yds.

Timber Piles 124,500 lin. ft.

Reinforcing Steel 1,000,000 lbs.

Mattress Protection 537,500 sq. ft.

Contract No. 4—Superstructure—Main Bridge.

Structural Metalwork 39,400,000 lbs.

Heat Treated Eyebars 2,500,000 lbs.

Railway Deck Timbers Treated 550 MBM.

Concrete Roadway Slabs 3270 cu. yds.

Reinforcing Steel 225,000 lbs.

Roadway Steel Reinforcing Trusses 183,000 lin. ft.

Contract No. 5—Substructure Approaches.

Excavation for Footings 32,400 cu. yds.

Concrete in Pedestals, Footings and Abutments 24,700 cu. yds.

Reinforcing Steel 1,130,000 lbs.

Timber Piles 60' long 1,032,200 lin. ft.

Highway Embankments 25,000 cu. yds.

Bituminous Roadway Surface 8000 sq. yds.

Reinforced Concrete Pipe, 12" diam., 750 lin. ft.

Reinforced Concrete Pipe, 24" diam., 750 lin. ft.

Steel Driving Shoes for piles 5000 shoes.

Contract No. 6—Superstructure Approaches.

Structural Metalwork 78,000,000 lbs.

Railway Deck Timbers Treated 3500 MBM.

Concrete Roadway Slabs 4860 cu. yds.

Reinforcing Steel 336,000 lbs.

Roadway Steel Reinforcing Trusses 275,000 lin. ft.

Copies of the contract drawings, contract, specifications, proposals and bond may be secured from the Louisiana Highway Commission at Baton Rouge, La., or the Public Belt Railroad Commission, Municipal Building, New Orleans, La., or Modjeski, Masters and Chase, 121 East 38th Street, New York, N. Y. A deposit of fifty dollars (\$50.00) will be required to be made for each set of plans, forty dollars (\$40.00) of which will be refunded upon the return of the plans in good condition.

In addition to the surety's consent there will be required to be deposited with each bid submitted certified check in the amount shown below:

Contract No. 3—\$100,000.00

Contract No. 4—\$100,000.00

Contract No. 5—\$ 25,000.00

Contract No. 6—\$100,000.00

The State and City reserve the right to reject any or all bids, or to accept any bids which will be for the best interests of the State and the City.

STATE OF LOUISIANA,

Acting Through  
STATE ADVISORY BOARD

By HUEY P. LONG, Chairman.

CITY OF NEW ORLEANS,

Acting Through

PUBLIC BELT RAILROAD COMMISSION  
By T. S. WALMSLEY, President.

Bids close August 4, 1931.

### Maryland Highway Work

DEPARTMENT OF PUBLIC WORKS  
STATE OF MARYLAND  
STATE ROADS COMMISSION

#### NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building six (6) sections of State Highway as follows: Baltimore County, Contract No. B-218-411—One section of State Highway along the Sparrows Point Road from the North Point Road to Edgemere, a distance of 2.05 miles (Conc. Header and Base and Concrete Shoulders)

Calvert County, Contract No. C-52-84—One section of State Highway from the Solomon's Island Road toward Governor's Run, a distance of 0.95 mile (Gravel)

Calvert County, Contract No. C-55-82—One section of State Highway from the Port Republic-Broome Island Road toward Parker's Wharf, a distance of 1.00 mile, and from the Port-Republic-Broome Island Road toward Williams Wharf, a distance of 1.05 miles, total 2.05 miles (Gravel)

Harford County, Contract No. H-127-44—One section of State Highway from Churchville toward Level, a distance of 1.60 miles (Macadam)

Harford County, Contract No. H-133-44—One section of State Highway along Union Street in Havre de Grace from Revolution Avenue to Commerce Street, a distance of 0.31 mile (Macadam)

Wicomico County and Somerset County, Contract No. Wi-79, S-33-13—One section of State Highway from the Salisbury-Princess Anne Road at a point approximately 1.6 miles south of the Fruitland Road via Eden and Loretta to Princess Anne, a distance of 7.87 miles (Concrete) and a distance of 0.81 mile (Concrete Shoulders), total 8.68 miles

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Streets, Baltimore, Maryland, until 12 M. on the 4th day of August, 1931, at which time and place they will be publicly opened and read.

Bids must be made on the blank proposal form which, with specifications and plans, will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check, payable to the State Roads Commission of Maryland, as required by Sec. 6, Chapter 539, Acts of 1931, of the amount as set forth in the proposal form.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 21st day of July, 1931.  
G. CLINTON UHL, Chairman.  
L. H. STEUART, Secretary.

Bids close August 14, 1931.

### Town Hall

DeQuincy, La., July 7, 1931.

Notice is hereby given that the Town Council of the Town of DeQuincy, Louisiana, will receive bids for the remodeling and construction of a Town Hall for the Town of DeQuincy, Louisiana, according to complete plans and specifications prepared by R. S. McCook, Incorporated, Architects, Lake Charles, Louisiana. Bidders will be required to furnish a certified check, payable to F. E. Farris, Mayor of the Town of DeQuincy, for five per cent (5%) of the amount of their bid as a guarantee of good faith.

Bids will be received up to the hour of 7:00 o'clock P. M., Friday, August 14, 1931. At 7:30 P. M. the Town Council of the said Town of DeQuincy will convene in open session at the Town Hall in the said Town of DeQuincy for the purpose of opening and considering the said bids.

All bids shall be sealed and addressed to M. M. Smith, Clerk of the Town of DeQuincy, Louisiana.

Plans and specifications and proposal forms may be procured at the office of the Architects upon deposit of Twenty-five Dollars (\$25.00), to be refunded when returned.

The Town Council reserves the right to reject any or all bids and waive all formalities.

F. E. FARRIS, Mayor.

M. M. SMITH, Clerk.

Bids close August 19, 1931.

### Dredging, Paving Bridges, Etc.

Dover, Del.

Sealed proposals will be received by the State Highway Department at its office, Dover, Delaware, until 2:00 o'clock P. M., Eastern Standard Time, August 19, 1931, and at that place and time publicly opened, for contracts involving the following approximate quantities:

CONTRACT NO. 1 (N-4)  
INDIAN RIVER INLET DREDGING  
50,000 Cu. yds. Excavation  
CONTRACT 144B  
MARSHALLTON CUTOFF: PAVING 1500 FEET

800 Cu. yds. Excavation  
850 Cu. yds. Cement Concrete Pavement  
500 Lin. ft. Expansion Joint  
2,500 Sq. ft. Concrete Sidewalk  
400 Lin. ft. Concrete Curb  
1,700 Lin. ft. Cable Guard Rail  
10 End Post Attachments  
2,000 Lin. ft. Wood Shoulder Curb

CONTRACT 182B  
APPOQUINIMINK AND DRAWYERS  
CREEK BRIDGES  
200 Cu. yds. Excavation.

500 Cu. yds. borrow  
1,400 Cu. yds. Class A Concrete  
122,000 Lbs. Reinforcement  
7,000 Lin. ft. Concrete Piling  
10 M. ft. B. M. Sheet Piling

NOTE: In order that the Department may secure bids only from those contractors who are thoroughly experienced in this class of work, applicants for proposals and plans on Contract 182 B will be required to submit sworn statements as to their experience, mechanical equipment and financial resources before the proposal and plans are forwarded. These statements must be on the standard forms of the Department which may be obtained upon request.

CONTRACT 199  
DORMAN STREET, HARRINGTON  
3450 FEET  
1,500 Cu. yds. Excavation  
1,250 Cu. yds. Cement Concrete Pavement  
3,650 Lin. ft. Longitudinal Joint  
800 Lin. ft. Expansion Joint  
1,000 Lbs. Catch Basin Castings  
100 Lin. ft. 12 in. C. I. Pipe  
400 Lin. ft. Concrete Curb

CONTRACT 200  
WILLIAM AND CEDAR STREETS,  
BRIDGEVILLE, 2600 FEET  
800 Cu. yds. Excavation  
400 Cu. yds. Borrow  
1,000 Cu. yds. Cement Concrete Pavement  
2,600 Lin. ft. Longitudinal Joint  
700 Lin. ft. Expansion Joint  
2,000 Lbs. Catch Basin Castings  
150 Lin. ft. 12 in. C. I. Pipe

CONTRACT 202  
SCHOOL STREET, MILLSBORO  
1340 FEET  
600 Cu. yds. Excavation  
500 Cu. yds. Cement Concrete Pavement  
1,350 Lin. ft. Longitudinal Joint  
400 Lin. ft. Expansion Joint  
800 Lbs. Catch Basin Castings  
50 Lin. ft. 12 in. C. I. Pipe

CONTRACT U  
SEED AND FERTILIZER  
30 Tons Fertilizer  
1 Ton Assorted Seed

Performance of contract shall commence within ten (10) days after execution of the contract and be completed as specified.

In the employment of labor, preference shall be given to residents of the State of Delaware.

Monthly payments will be made for 90 per cent of the construction completed each month.

Bidders must submit proposals upon forms provided by the Department.

Each proposal must be accompanied by a surety bond, certified check, or money to the amount of at least ten (10) per centum of the total amount of the proposal.

The envelope containing the proposal must be marked "Proposal for the construction of State Highway Contract No. ...."

The contract will be awarded or rejected within twenty (20) days from the date of opening proposals.

The right is reserved to reject any or all bids.

Complete sets of plans and specifications may be obtained upon receipt of two dollars (\$2.00) for each contract, which amount will not be refunded.

STATE HIGHWAY DEPARTMENT.

# CLASSIFIED OPPORTUNITIES

## MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

**FOR SALE**—10,000 acres prospective oil land near producing wells in Western Louisiana. Land is well blocked and is worth \$10.00 per acre for farming purposes. Price \$3.00 per acre. J. C. HARRISON & CO., Clarksville, Ark.

### MANGANESE PROPERTY

**VIRGINIA MANGANESE PROPERTY**—396 acres with two leads of high grade ore. Only in prospect stage now but every indication of huge deposits easily mined. One lead through top of Mountain with ore body exposed within few feet of surface. A wonderful opportunity for one familiar with developing such a property. Sell or Lease.

BOX 137  
LYNCHBURG, VIRGINIA.

### TIMBER AND TIMBER LANDS

**VIRGIN PINE TIMBER LANDS** Will sell at sacrifice 1000 acres heavy virgin pine timber lands at \$6 acre; cash only; no trades; in normal times ready market for timber at good prices.

S. W. DUKE, Mena, Ark.

### FARM, FRUIT AND TRUCK LANDS

#### ALABAMA

**FOR SALE**, 6800 acres Baldwin Co., Ala., on main line L. N. R. R., including small town with all buildings and improvements. Pecan Orchard, Timber, good water, \$8 per acre, half cash. Also 3550 acres adjoining in N. W. Florida. Owner, Mrs. H. M. LAWRENCE, Dyas, Alabama.

#### VIRGINIA

**FOR SALE**—A famous estate of about 630 acres of bluegrass and rich river bottom land known throughout Southwest Virginia as the best. Produces finest horses and cattle and all grain crops. Large dwelling of 14 rooms. Night ride from Washington. Ideal climate. Price \$140 per acre; mineral rights reserved. Address Owners, Box 66, Marion, Va.

### BUSINESS OPPORTUNITIES

**LONG TERM LOANS**, large amounts, made on industrial, mercantile, sawmill properties. THOS. W. GILMER, Attorney, Bay Minette, Alabama.

**WANT TO GET** in touch with nation-wide selling organization interested in handling anti-rumbling device for model "A" Fords. C. W. PALMORE, Lakeland, Fla.

**WANTED**—A PARTY to finance the manufacturing and distribution of liquid Aspirin, best preventative for influenza. Address No. 9119, care of Manufacturers Record, Baltimore, Md.

**MANUFACTURERS**—Write for our FREE Classification Sheets of inventions for sale, covering 135 main subjects, and in one or more of which you will doubtless be interested. ADAM FISHER MFG. CO., 578 Enright, St. Louis, Mo.

**HAVE DISCOVERED** evidence of large deposits of rock salt on own property. This is near high calcium limestone. Want to hear from interested chemical companies who would prospect on agreeable terms. Address No. 9122, Manufacturers Record.

### MOVING AHEAD

Parkersburg has worked out of the depression. Diversified industry did it. Locate your factory here at the gateway to the Central West and South.

BOARD OF COMMERCE,  
Parkersburg, West Virginia.

### RATES, TERMS AND CONDITIONS

**RATES**: 30 cents a line each insertion. Minimum space accepted, four lines. In estimating the cost allow six or seven words of ordinary length to line. When the advertisement contains a number of long words proper allowance should be made.

#### RATES FOR SPECIAL CONTRACT:

100 lines 28c a line  
300 lines 26c a line  
500 lines or more 25c a line

**TERMS**: For transient advertising cash with order; check, post office or express money order or stamps accepted.

On special contract advertising bills are rendered monthly, covering space used each month, payable within ten days.

**CONDITIONS**: No patent medicine, oil or mining stock advertisements or questionable or undesirable advertisements will be accepted. The assistance of our readers in excluding undesirable advertisements is requested. No display type used.

### INDUSTRIAL SURVEYS

**ENGINEERING REPORTS** on resources of cities and towns. Recommendations for industrial development and zoning made by specialists in locating industries.

**TECHNICAL SERVICE CO.**,  
Woolworth Building New York City

### MANUFACTURING SPACE

**FOR RENT**—Short or long time lease 14,000 sq. ft. floor space. Suited for Retail or Wholesale business or manufacturing. Located in heart of the City of Columbus, Georgia. Can furnish heat, light, water and power. Low insurance rates. Communicate with NATIONAL INVESTMENT CORPORATION, Columbus, Georgia.

### INDUSTRIAL PLANTS

**FOR SALE OR LEASE**—Completely equipped twenty automatic loom blanket plant. All machinery modern. For complete information write to the Stone's River Woolen Mills, Murfreesboro, Tennessee.

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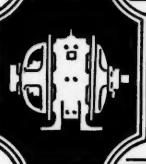
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38"-60" x 32' McCabe 2 in 1 lathe, belt drive.  
48" x 16' Lodge & Shipley geared head, AC motor drive, rapid traverse.  
28" x 30' Harrington, belt drive.  
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25 H.P.	900	R.P.M.	220	Volt	Gen.	Elec.	
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125 H.P.	514	R.P.M.	440	Volt	Gen.	Elec.	
150 H.P.	514	R.P.M.	2300	Volt	Gen.	Elec.	
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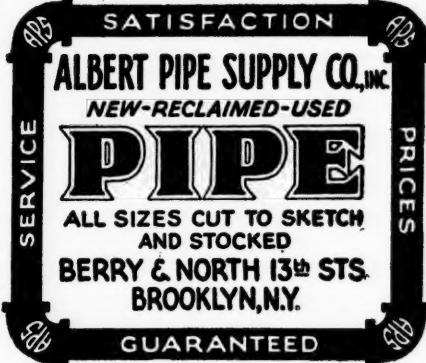
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1—20-ton Insley Guy Derrick, 95' steel latticed mast, 80' steel latticed boom. Complete with 6 sets of 1 1/4" guy wires, 1—9x10" double cylinder, 3-drum Lidgerwood Lifting Engine, and 1—Wheland Twin Swinging Engine. This derrick has 15' bull wheel, is complete with all cable and blocks necessary to efficient operation. Bought new and used one year.

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**EDGE MOOR WATER TUBE BOILERS**  
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 2—737 hp. Edge Moor water tube boilers, built  
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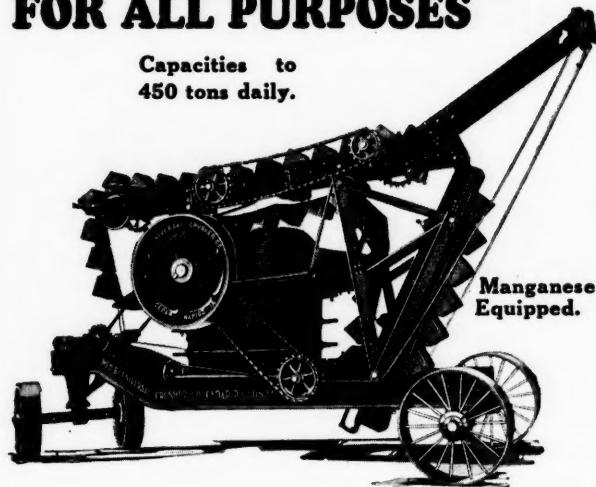
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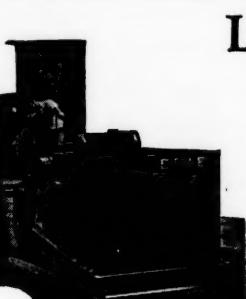
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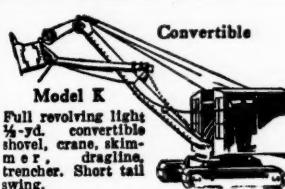
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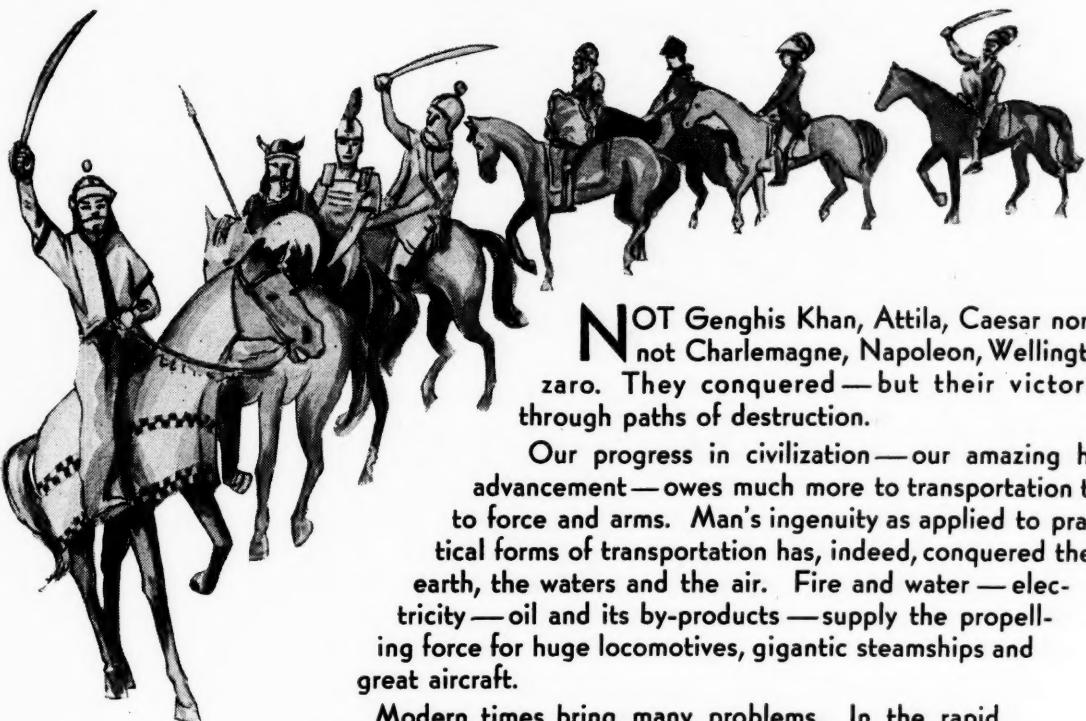
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# CONQUERORS



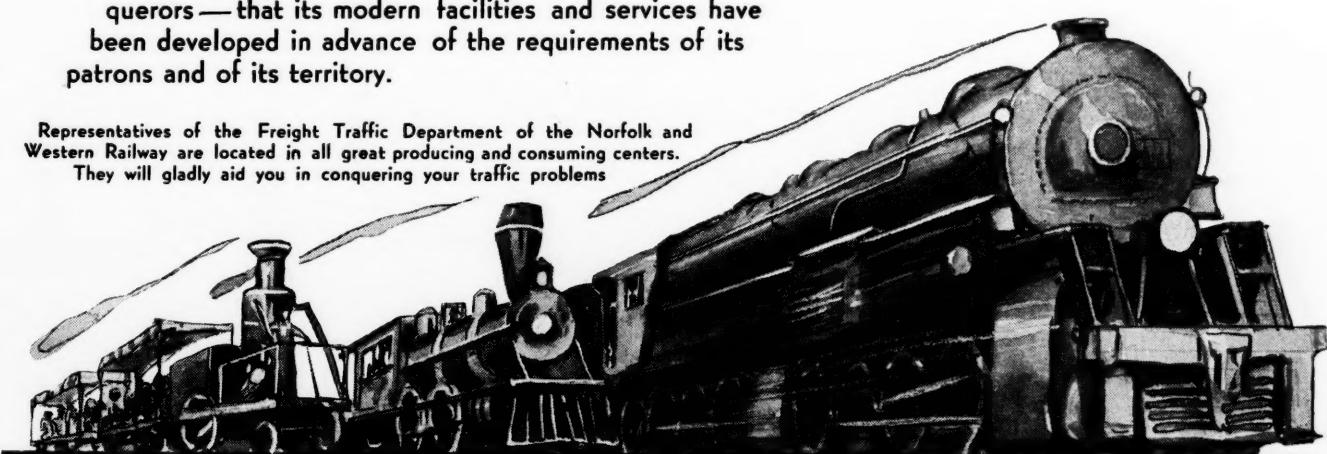
**N**OT Genghis Khan, Attila, Caesar nor Alexander; not Charlemagne, Napoleon, Wellington nor Pizarro. They conquered—but their victories came through paths of destruction.

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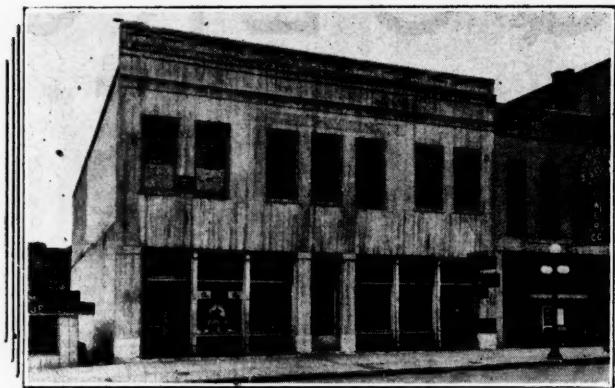
Modern times bring many problems. In the rapid handling of mass transportation and in moving the great output of products that sustain life and industry, railway transportation provides the great arteries through which these commodities circulate throughout the nation. With the development of the railways came our development as a nation. Frontiers disappeared—the trading post became our modern emporium—the wilderness has been transformed into productive fields.

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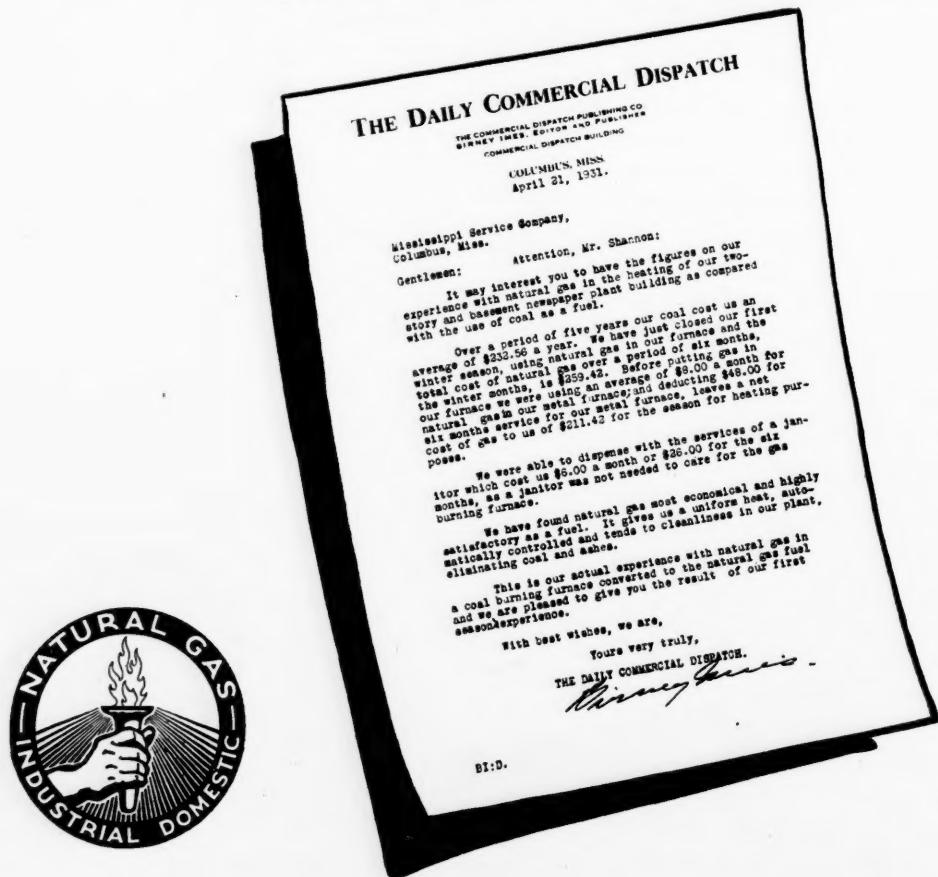
Representatives of the Freight Traffic Department of the Norfolk and Western Railway are located in all great producing and consuming centers. They will gladly aid you in conquering your traffic problems.



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ROANOKE, VIRGINIA



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**SOUTHERN NATURAL GAS  
CORPORATION**

WATTS BUILDING  
BIRMINGHAM, ALA.



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## HYDRO - ELECTRIC - DEVELOPMENT

**H**AS RECEIVED NATIONAL AND INTERNATIONAL COMMENT—BECAUSE IT SETS A NEW PACE — A YARD-STICK FOR ELECTRIC POWER RATES ON A FAIR BASIS.

LARGE BLOCKS OF KILO-WATT-HOURS OFFERED AT RATES WHICH ARE *MORE* THAN TWENTY-FIVE PER CENT (25%) CHEAPER THAN THE CHEAPEST IN THE STATE.

**10,000 Electric Horse Power For Sale.**

Certain new industries tax free for first five years. (Excepting five mills State tax.)

**NO DEMAND**

**NO MINIMUM**

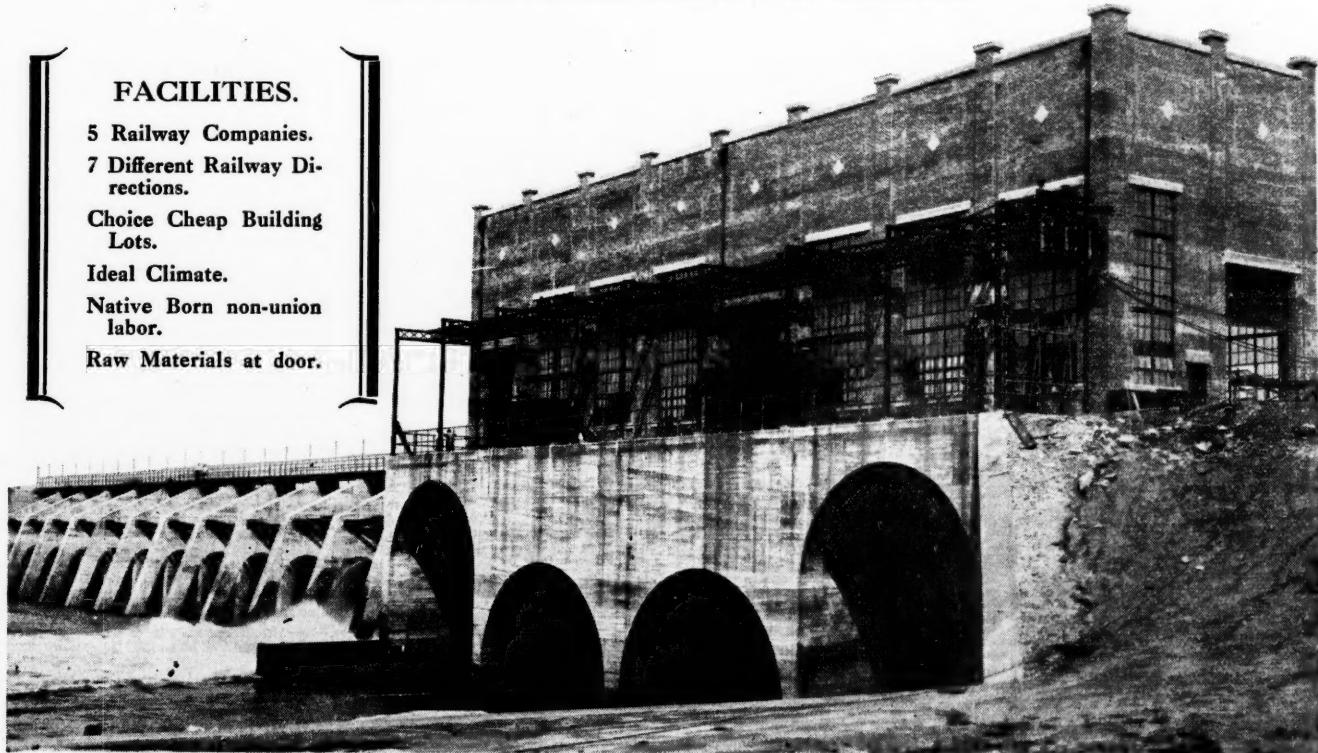
**I N Q U I R I E S I N V I T E D**

## Crisp County Power Commission, Cordele, Ga.

*Watch the MANUFACTURERS RECORD for further announcements*

**FACILITIES.**

- 5 Railway Companies.
- 7 Different Railway Directions.
- Choice Cheap Building Lots.
- Ideal Climate.
- Native Born non-union labor.
- Raw Materials at door.



## Classified Index for Buyers

**ABRASIVE MATERIALS.**  
Carborundum Co., Niagara Falls, N. Y.

**ACCOUNTANTS (Cert. and Cost.)**  
Audit Company of the South, Atlanta, Ga.  
Ernst & Ernst, New York, N. Y.

**AERIAL TOWERS.**  
LeBourg, A., Gadsden, Ala.

**AIR COMPRESSORS (Stationary and Portable.)**  
Armstrong & Bro. Co., R. S., Atlanta, Ga.  
De Laval Steam Turbine Co., Trenton, N. J.  
General Electric Co., Schenectady, N. Y.  
Quincy Compressor Co., Quincy, Ill.  
Westinghouse Traction Brake Co., Wilmerding, Pa.

**AIR CONDITIONING SYSTEMS.**  
Niagara Blower Co., New York, N. Y.

**AIR HEATERS.**  
Babcock & Wilcox Co., New York.

**AIRLOCKS.**  
Aico Products, Inc., New York, N. Y.

**ANGLE IRON-WORKING MACHINERY.**  
Whitney Metal Tool Co., Rockford, Ill.

**APPRAISERS.**  
Conrad, William R., Burlington, N. J.  
Main, Inc., Chas. T., Boston, Mass.

**ARCHITECTS.**  
Chase, Wm. J. J., Atlanta.  
Main, Inc., Chas. T., Boston, Mass.  
Milburn, Heister & Co., Wash., D. C.  
Moyer Co., Tilghman, Allentown, Pa.  
Preacher & Co., Inc., G. Lloyd, Atlanta.  
Sririne & Co., J. E., Greenville, S. C.  
Wheeler, Walter H., Minneapolis, Minn.

**ARCHITECTS' SUPPLIES.**  
Weber Co., Inc., F., Philadelphia, Pa.

**ARCHITECTURAL IRON WORK.**  
Dietrich Brothers, Baltimore, Md.  
Virginia Bridge & Iron Co., Roanoke, Va.

**ASPHALT.**  
Gulf Refining Co., Pittsburgh, Pa.  
—(Emulsified.)  
Headley Emulsified Products Co., Philadelphia, Pa.

—(Filler.)  
American Limestone Co., Knoxville, Tenn.  
—(Paving.)  
Barber Asphalt Co., Philadelphia, Pa.  
—(Plants.)  
Simplicity System Co., Chattanooga, Tenn.

**AUDITORS.**  
Ernst & Ernst, New York, N. Y.

**BABBET METAL.**  
Ryerson & Sons, Inc., Jos. T., St. Louis  
and New York.

**BACKFILLERS.**  
Harnischfeger Corp., Milwaukee, Wis.  
National Equipment Corp. (Insley, Parsons), Milwaukee, Wis.

**BALLAST (Railroad.)**  
American Limestone Co., Knoxville, Tenn.

**BANKS and TRUST COMPANIES.**  
Baltimore Commercial Bank, Balt., Md.  
Baltimore Trust Co., Baltimore, Md.  
Bank of New York & Trust Co., New York City.  
First and Merchants National Bank, Richmond, Va.  
Provident Savings Bank & Trust Co., Cincinnati, Ohio.

**BARGES (Steel.)**  
American Bridge Co., New York, N. Y.  
McClintic-Marshall Co., Pittsburgh, Pa.

**BARS (Steel, Rounds, Flats, Hexagon and Squares.)**  
Carnegie Steel Co., Pittsburgh, Pa.  
Gulf States Steel Co., Birmingham, Ala.  
Ingalls Iron Works Co., Birmingham.  
Ryerson & Son, Inc., Jos. T., St. Louis  
and New York.  
Sweet's Steel Corp., Williamsport, Pa.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Timken Roller Bearing Co., Canton, O.

Virginia Bridge & Iron Co., Roanoke, Va.  
Youngstown Sheet & Tube Co., Youngstown, Ohio.

**BATTERIES (Storage.)**  
Electric Storage Battery Co., Phila., Pa.

**BEAMS, CHANNELS, ANGLES.**  
Belmont Iron Works, Philadelphia, Pa.  
Carnegie Steel Co., Pittsburgh, Pa.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Ingalls Iron Works Co., Birmingham.  
Jones & Laughlin Steel Corp., Pittsburgh, Pa.  
Ryerson & Son, Inc., Jos. T., St. Louis  
and New York.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Virginia Bridge & Iron Co., Roanoke, Va.

**BEARINGS (Anti-friction.)**  
Timken Roller Bearing Co., Canton, Ohio.

—(Roller.)  
Timken Roller Bearing Co., Canton, Ohio.

**BELT (Chain.)**  
Diamond Chain & Mfg. Co., Indianapolis.  
—(Leather, Canvas, Rubber.)  
Charlotte Leather Belting Co., Charlotte, N. C.  
—Dressing.  
Charlotte Leather Belting Co., Charlotte, N. C.  
Dixon Crucible Co., Jos., Jersey City, N. J.  
—Fasteners.  
Flexible Steel Lacing Co., Chicago, Ill.  
—Lacing (Steel Hinges.)  
Flexible Steel Lacing Co., Chicago, Ill.

**BELT CONVEYORS.**  
Barber-Greene Co., Aurora, Ill.

**BILLETS (Basic Open Hearth.)**  
Gulf States Steel Co., Birmingham, Ala.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

**BINS (Steel Loading.)**  
Blaw-Knox Co., Pittsburgh, Pa.  
Butler Bin Co., Waukesha, Wis.

**BLASTING POWDER and Accessories.**  
Du Pont de Nemours & Co., E. I., Wilmington, Del.

**BLINDS (Venetian and Awning.)**  
Wilson Corp., The J. G., New York.

**BLOCKS (Chain.)**  
Wright Mfg. Co., Bridgeport, Conn.

**BOILER REPAIRS.**  
Finnigan Co., Inc., J. J., Atlanta, Ga.

**BOILERS (New.)**  
Babcock & Wilcox Co., The, New York.

Charleston Dry Dock & Machine Co., Charleston, S. C.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Cole Mfg. Co., R. D., Newnan, Ga.

Combustion Engr. Corp., New York, N. Y.

Hedges Walsh Welder Co., Chattanooga, Tenn.

Lombard Iron Works & Supply Co., Augusta, Ga.

Lookout Boiler & Mfg. Co., Chattanooga, Tenn.

Schofield's Sons Co., J. S., Macon, Ga.

Titusville Iron Works Co., Titusville, Pa.

—(Used.)

Delta Equipment Co., Philadelphia, Pa.

O'Brien Machinery Co., Philadelphia, Pa.

Randle Machinery Co., The, Cincinnati, O.

Zelnicker Supply Co., W. A., St. Louis.

**BOILER SETTINGS.**

Babcock & Wilcox Co., New York.

—Tubes.

Babcock & Wilcox Co., New York.

National Tube Co., Pittsburgh, Pa.

Ryerson & Son, Inc., Jos. T., St. Louis

and New York.

—Tubes (Charcoal, Iron.)

Reading Iron Co., Reading, Pa.

**BOLTS, Rivets, Studs, Washers.**

Bethlehem Steel Co., Bethlehem, Pa.

Oliver Iron & Steel Corp., Pittsburgh, Pa.

Progressive Mfg. Co., Torrington, Conn.

Russell, Burdsall & Ward Bolt & Nut Co., Port Chester, N. Y.

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

Virginia Bridge & Iron Co., Roanoke, Va.

—(Track.)

Sweet's Steel Co., Williamsport, Pa.

**BOND BUYERS.**

Hanchett Bond Co., Inc., The, Chicago.

Law & Co., A. M., Spartanburg, S. C.

Nuveen & Co., John, Chicago, Ill.

Provident Savings Bank and Trust Co., Cincinnati, Ohio.

**BORINGS (Core.)**

Kennedy-Riegger Drilling Co., New York City.

Mott Core Drilling Co., Huntington, W. Va.

Pennsylvania Drilling Co., Pittsburgh, Pa.

Southern Drilling Co., Saltville, Va.

Sprague & Henwood, Inc., Scranton, Pa.

**BOXES (Paper.)**

Old Dominion Box Co., Lynchburg, Va.

**BRASS GOODS.**

Mueller Co., Decatur, Ill.

**BRICK (Common Building.)**

Friend & Co., Inc., Petersburg, Va.

—(Vitrified, Paving.)

National Paving Brick Asso., Washington, D. C.

—(and Clayworking Machy.)

Flexible Steel Lacing Co., Chicago, Ill.

**BRIDGE (Operating Machinery.)**

Earle Gear & Machine Co., Phila., Pa.

—Slabs.

Kerlow Steel Flooring Co., Jersey City, N. J.

—Timber.

American Creosoting Co., Louisville, Ky.

Kirby Lumber Co., Houston, Texas.

**BRIDGES (Steel.)**

American Bridge Co., New York, N. Y.

Belmont Iron Works, Philadelphia, Pa.

Bristol Steel & Iron Works, Inc., Bristol, Va.

Converse Bridge & Steel Co., Chattanooga, Tenn.

Ingalls Iron Works Co., Birmingham, Ala.

McClintic-Marshall Co., Pittsburgh, Pa.

Roanoke Iron & Bridge Works, Roanoke, Va.

Virginia Bridge & Iron Co., Roanoke, Va.

**BRONZE (Architectural.)**

Heath Company, J. S., Waukegan, Ill.

Michaels Art Bronze Co., Covington, Ky.

**BUBBLERS.**

Bundle-Spence Mfg. Co., Milwaukee, Wis.

**BUCKETS (Clam Shell.)**

Blaw-Knox Co., Pittsburgh, Pa.

Industrial Brownholst Corp., Cleveland, O.

Owen Bucket Co., The, Cleveland, Ohio.

Williams Company, G. H., Erie, Pa.

—(Coal.)

Owen Bucket Co., Cleveland, O.

—(Dredging, Excavating, Sewer, etc.)

Owen Bucket Co., The, Cleveland, Ohio.

Stuebner Iron Works, G. L., Long Island City, N. Y.

Williams Company, G. H., Erie, Pa.

—(Elevator.)

Hendrick Mfg. Co., Carbondale, Pa.

—(Material Handling.)

Owen Bucket Co., Cleveland, O.

—(Ore Handling.)

Owen Bucket Co., The, Cleveland, Ohio.

Stuebner Iron Works, G. L., Long Island City, N. Y.

—(Rehandling.)

Owen Bucket Co., Cleveland, O.

—(Sand and Gravel.)

Owen Bucket Co., Cleveland, O.

Williams Company, G. H., Erie, Pa.

**BUILDERS and Contractors.**

Cowper Co., Inc., The John W., Richmond, Va.

Lockwood Greene Engrs., Inc., Boston.

Moyer Co., Tilghman, Allentown, Pa.

Thompson & Bros., T. C., Charlotte, N. C.

United Engineers & Constructors, Phila.

White Engineering Corp., J. G., New York.

**BUILDINGS (Industrial.)**

Belmont Iron Works, Philadelphia, Pa.

Blaw-Knox Co., Pittsburgh, Pa.

Ingalls Iron Works Co., Birmingham.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Truscon Steel Co., Youngstown, O.  
Virginia Bridge & Iron Co., Roanoke, Va.  
—(Portable Sheet Metal.)  
Birmingham Tank Co., Birmingham.

**BULKHEADS.**

Shore-Line Builders, Inc., Jacksonville, Fla.  
Share Corp., Frederick, New York, N. Y.

**BULLDOZERS.**

Trackson Co., Milwaukee, Wis.

**BURLAP.**

Fulton Bag & Cotton Mills, Atlanta, Ga.

**BUSINESS METHODS.**

Ernst & Ernst, New York, N. Y.

**CABLE (Elevator.)**

American Steel & Wire Co., Chicago, Ill.  
Roebling's Sons Co., John A., Trenton, N. J.

—(Stud Link.)

Woodhouse Chain Works, Trenton, N. J.

—(and Wire (Electric.)

American Steel & Wire Co., Balto., Md.  
Roebling's Sons Co., John A., Trenton, N. J.  
Western Electric Co., New York City.

**CALCIUM CHLORIDE.**

Grasselli Chemical Co., Inc., Birmingham.

**CAN and Box-Making Machinery (Tin.)**

Bliss Co., E. W., Brooklyn, N. Y.

**CANNING MACHINERY.**

Robins & Co., A. K., Baltimore, Md.

**CANVAS.**

Fulton Bag & Cotton Mills, Atlanta, Ga.

**CAB (Loaders and Unloaders.)**

Barber-Greene Co., Aurora, Ill.

**CARS (Dump, Industrial, Logging and Mine.)**

Atlas Car & Mfg. Co., The, Cleveland, O.

Southern Iron & Equipment Co., Atlanta.

**CASSIERS (Foundations, Water Wells, etc.)**

United Welding Co., Middletown, O.

**CASTINGS (Alloy.)**

Mountain State Steel Foundries, Parkersburg, W. Va.

—(Brass, Bronze and Aluminum.)

Richmond Foundry & Mfg. Co., Richmond, Va.

Savannah Mch. & Fdry. Co., Savannah, Ga.

(Chilled Iron.)

Fuller Lehigh Co., Fullerton, Penna.

—(Gray Iron.)

Fuller Lehigh Co., Fullerton, Penna.

Glamorgan Pipe & Fdy. Co., Lynchburg, Va.

Jefferson Foundry Co., Birmingham, Ala.

National Cast Iron Pipe Co., Birmingham, Ala.

Richmond Foundry & Mfg. Co., Richmond, Va.

Salem Fdry. & Mch. Wks., Salem, Va.

Savannah Mch. & Fdry. Co., Savannah, Ga.

Schofield's Sons Co., J. S., Macon, Ga.

U. S. Pipe & Foundry Co., Burlington, N. J.

—(Malleable Iron and Steel.)

Timken Roller Bearing Co., Canton, O.

—(Semi-Steel.)

Jefferson Foundry Co., Birmingham, Ala.

Salem Fdry. & Mch. Wks., Salem, Va.

—(Steel.)

Bethlehem Steel Co., Bethlehem, Pa.

Crucible Steel Casting Co., Lansdowne, Pa

**(High Speed Roller.)**

Diamond Chain &amp; Mfg. Co., Indianapolis.

**(Silent Drive.)**

Diamond Chain &amp; Mfg. Co., Indianapolis.

**(Welded.)**

Woodhouse Chain Works, Trenton, N. J.

**CHAIRS (Opera and Theatre.)**

Andrews Co., A. H., Chicago, Ill.

**CHEMICALS.**

Davidson Chemical Co., Baltimore, Md.

Grasselli Chemical Co., Inc., Birmingham.

**CHEMISTS, CHEMICAL ENGINEERS (Analytical.)**

Barrow-Age Laboratories, Memphis, Tenn.

Froehling &amp; Robertson, Inc., Richmond, Va.

**Hunt Co., Robert W., Chicago, Ill.**

Longdale Laboratories, Inc., Richmond, Va.

Meigs, Bassett &amp; Slaughter, Phila., Pa.

Moss, Jr., W. Wade, Columbus, Ga.

Picard Laboratories, Birmingham, Ala.

Pittsburgh Testing Laboratories, Pittsburgh, Pa.

**Southwestern Laboratories, Fort Worth, Tex.**

Stillman &amp; Van Sielen, New York.

**(Consulting, Paper Industry.)**

Froehling &amp; Robertson, Inc., Richmond, Va.

**CHIMNEYS (Concrete.)**

Rust Engineering Co., Birmingham, Ala.

**(Radial Brick.)**

Northwestern Chimney Constr. Co., Cleveland, O.

Rust Engineering Co., Birmingham, Ala.

**—Inspected and Repaired.**

Northwestern Chimney Constr. Co., Cleveland, O.

**CHLORIDE ACCUMULATOR.**

Electric Storage Battery Co., Phila., Pa.

**CHUTES.**

Cutler Mail Chute Co., Rochester, N. Y.

**CIRCUIT BREAKERS.**

Westinghouse Electric &amp; Mfg. Co., E. Pittsburgh, Pa.

**CLOCKS (Watchman's Portable.)**

Davis-Paradis Watchman's Clock Corp., New York, N. Y.

**CLOTH (Wire.)**

Newark Wire Cloth Co., Newark, N. J.

**CLUTCHES (Friction.)**

Caldwell Co., Inc., W. E., Louisville, Ky.

**COAL (Bituminous.)**

Tennessee Coal, Iron &amp; Railroad Co., Birmingham, Ala.

**—and Ash-Handling Machy.**

Industrial Brownhoist Corp., Cleveland, O.

Northwest Engineering Co., Chicago.

**Jigs.**

Steward Machine Co., Chas. C., Birmingham, Ala.

**Tipples.**

American Bridge Co., New York, N. Y.

Virginia Bridge &amp; Iron Co., Roanoke, Va.

**Washers.**

Steward Machine Co., Chas. C., Birmingham, Ala.

**COATINGS (Protective.)**

Headley Emulsified Products Co., Philadelphia, Pa.

**COCKS (Service.)**

Merco Nordstrom Valve Co., San Francisco, Calif.

**COKE.**

Tennessee Coal, Iron &amp; Railroad Co., Birmingham, Ala.

**COLUMNS (Cast Iron.)**

U. S. Pipe &amp; Fdry. Co., Burlington, N.J.

**CONCRETE (Block Machinery.)**

Blystone Mfg. Co., Cambridge Springs, Pa.

**—Construction (Reinforced.)**

Cement-Gun Co., Inc., Allentown, Pa.

Cement Gun Construction Co., Chicago.

Rust Engineering Co., Birmingham, Ala.

**Floor Slabs.**

Federal-American Cement Tile Co., Chicago.

**Mixers.**

Blystone Mfg. Co., Cambridge Springs, Pa.

Dunning &amp; Bochert Press Co., Inc.,

Syracuse, N. Y.

**Jaeger Machine Co., Columbus, Ohio.****Pipe Machinery (See Pipe**

Machinery, Concrete.)

**Placing Equipment.**

National Equipment Corp. (Insley Division), Milwaukee, Wis.

**Roofing Tile.**

Federal-American Cement Tile Co., Chicago.

**CONDENSERS.**

Manistee Iron Works Co., Manistee, Mich.

Westinghouse Electric &amp; Mfg. Co., E. Pittsburgh, Pa.

**CONDUITS (Electric, Interior, Steel.)**

Western Electric Co., New York, N. Y.

Youngstown Sheet &amp; Tube Co., Youngstown, Ohio.

**CONTRACTORS (Bridge.)**

Hardaway Contracting Co., Columbus, Ga.

Kansas City Bridge Co., Kansas City, Mo.

Snare Corp., Frederick, New York.

**(Drainage and Dredging.)**

Arundel Corp., The, Baltimore, Md.

Atlantic Gulf and Pacific Co., New York.

**(Electrical.)**

Virginia Engineering Co., Inc., Newport News, Va.

Walker Electrical Co., Atlanta, Ga.

Warner Service Co., Knoxville, Tenn.

Webb Electric Co., Anderson, S. C.

**(Foundations and Dams.)**

Snare Corp., Frederick, New York, N. Y.

**(General.)**

Blair, Algernon, Montgomery, Ala.

Burkes, Inc., J. V. &amp; R. T., New Orleans.

Cornell Young Co., Inc., Macon, Ga.

Copper Co., Inc., John W., Richmond, Va.

Fiske-Carter Constr. Co., Greenville, S.C.

Gridley Constr. Co., Lee A., Knoxville, Tenn.

Saville, Inc., Allen J., Richmond, Va.

Smallman-MacQueen Construction Co., Birmingham.

**(Industrial Buildings.)**

Blair, Algernon, Montgomery, Ala.

Copper Co., Inc., John W., Richmond, Va.

Fiske-Carter Constr. Co., Greenville, S. C.

Lockwood Greene Engrs., Inc., Boston.

Smallman-MacQueen Construction Co., Birmingham.

Snare Corp., Frederick, New York, N. Y.

Thompson &amp; Bros., T. C., Charlotte, N. C.

Tucker &amp; Laxton, Charlotte, N. C.

White Engineering Corp., J. G., New York.

**(Mill Village.)**

Hornbuckle Contracting Co., Atlanta, Ga.

**(Power Piping.)**

Pittsburgh Piping &amp; Equip. Co., Pittsburgh, Pa.

Poe Piping &amp; Heating Co., Greenville, S. C.

**(Power Plants.)**

Snare Corp., Frederick, New York, N. Y.

Virginia Engineering Co., Inc., Newport News, Va.

**(Railroad.)**

Cornell-Young Co., Inc., Macon, Ga.

**(Reinforced Concrete.)**

Blair, Algernon, Montgomery, Ala.

Cement Gun Construction Co., Chicago.

Gunitte Conc. &amp; Constr. Co., Kansas City.

Tucker &amp; Laxton, Charlotte, N. C.

**(Road and Street Paving.)**

Fiske-Carter Constr. Co., Greenville, S. C.

Gridley Constr. Co., Lee A., Knoxville, Tenn.

Hornbuckle Contracting Co., Atlanta, Ga.

McCrory Co., J. B., Atlanta, Ga.

Snare Corp., Frederick, New York, N. Y.

Tucker &amp; Laxton, Charlotte, N. C.

Virginia Engineering Co., Inc., Newport News, Va.

**(Sewerage and Waterworks.)**

Gridley Constr. Co., Lee A., Knoxville, Tenn.

Hardaway Contracting Co., Columbus, Ga.

Hornbuckle Contracting Co., Atlanta, Ga.

McCrory Co., J. B., Atlanta, Ga.

Snare Corp., Frederick, New York, N. Y.

Tucker &amp; Laxton, Charlotte, N. C.

Virginia Engineering Co., Inc., Newport News, Va.

**(Sprinkler System.)**

Poe Piping &amp; Heating Co., Greenville, S. C.

**Machinery and Supplies.****(Used.)**

Adams Mchy. Co., T. G., Savannah, Ga.

Lima Excavator Sales Agency, Lima, Ohio.

Marine Metal &amp; Supply Co., New York.

**CONTRACT WORK WANTED.**

(See following classifications:)

Boiler and Tank Work.

Castings.

Forgings.

Foundries and Machine Shops.

Machinery (Special.)

Ornamental Iron Work.

Patterns.

Sheet Metal Work.

Structural Steel and Iron.

Welding Plants.

**CONVEYING AND ELEVATING MACHINERY.**

Barber-Green Co., Aurora, Ill.

Fairfield Engr. Co., Marion, Ohio.

Universal Crusher Co., Cedar Rapids, Ia.

**CONVEYORS (Portable, Power-Driven.)**

Clark Tractor Co., Battle Creek, Mich.

Fairfield Engr. Co., Marion, Ohio.

**COOLING AND HEATING UNITS (Fan.)**

Niagara Blower Co., New York, N. Y.

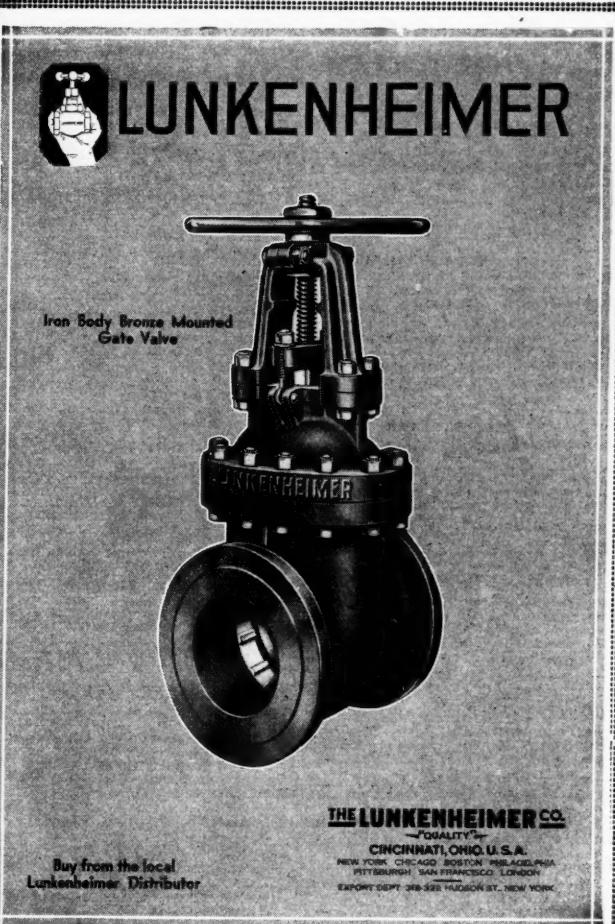
**COTTON GIN MACHINERY.**

Continental Gin Co., Birmingham, Ala.

**COUPLINGS.**

Goldens' Fdy. &amp; Mch. Co., Columbus, Ga.

**LUNKENHEIMER**



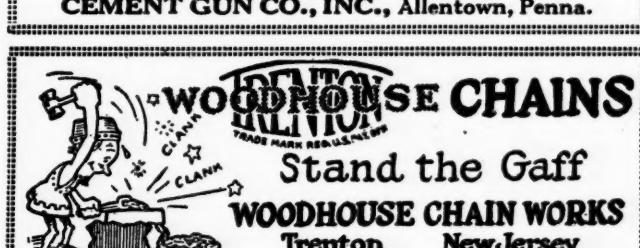
Iron Body Bronze Mounted  
Gate Valve

THE LUNKENHEIMER CO.  
CINCINNATI, OHIO U.S.A.  
NEW YORK CHICAGO BOSTON PHILADELPHIA  
PITTSBURGH SAN FRANCISCO LONDON  
EXPORT DEPT. 308-312 TRADESTOCK ST. NEW YORK

Buy from the local  
Lunkenheimer Distributor

**ELECTRIC STEEL CASTINGS***Weighing from 1 lb. to 500 lbs. each**Quantity Production A Specialty**Nickel, Chrome and Other Alloy**Quick Delivery**Inquiries Solicited***CRUCIBLE STEEL CASTING COMPANY****LANSDOWNE, DELAWARE COUNTY, PA.***We announce many new improvements in***COTTON GINNING MACHINERY****and HEAVY DUTY OIL ENGINES***Write for Details***CONTINENTAL GIN CO., 4600 4th Avenue So.  
Birmingham, Ala.****WE are the sole and only manufacturers of the machine  
known under the trade name and trade mark  
"CEMENT GUN"***Let us aid you by giving you full information how your new  
construction or repair is made with this machine and its product**GUNITE**Experience Has Taught Us All Best Methods***CEMENT GUN CO., INC., Allentown, Penna.**

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TRADE MARK REG. U. S. PAT. OFF.



Stand the Gaff  
**WOODHOUSE CHAIN WORKS**  
Trenton New Jersey

**(Flexible.)**  
Diamond Chain & Mfg. Co., Indianapolis, Ind.

**CRANES.**  
Industrial Brownhoist Corp., Cleveland, O.  
National Equipment Co., (Inslay, Koehring, Parsons), Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Tew Shovel Co., The, Lorain, Ohio.

**(Cantilever, Gantry.)**  
Bedford Foundry & Machine Co., Bedford, Ind.

**(Crawler.)**  
Harnischfeger Corp., Milwaukee, Wis.  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Tew Shovel Co., The, Lorain, Ohio.

**(Crawling Tractor.)**  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Tew Shovel Co., The, Lorain, Ohio.

**(Electric Traveling.)**  
Bedford Foundry & Machine Co., Bedford, Ind.

**(Full Circle Steam and Electric.)**  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Tew Shovel Co., The, Lorain, Ohio.

**(Gasoline.)**  
Harnischfeger Corp., Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Tew Shovel Co., The, Lorain, Ohio.

**(Locomotive.)**  
Bucyrus-Erie Co., So. Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Tew Shovel Co., The, Lorain, Ohio.

**(Material Handling.)**  
Bay City Shovels, Inc., Bay City, Mich.  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Tew Shovel Co., The, Lorain, Ohio.

**(Traveling Hand Power.)**  
Wright Mfg. Co., Bridgeport, Conn.

**CRAWLERS (Tractor.)**  
Trackson Co., Milwaukee, Wis.

**CREOSOTED MATERIALS.**  
Amer. Creosote Wks., Inc., New Orleans.  
Atlantic Creosoting Co., Norfolk, Va.

**CREOSOTED TIMBER.**  
Ayer & Lord Tie Co., Chicago, Ill.  
Brown Wood Preserving Co., Louisville, Ky.

**CREOSOTE OIL.**  
Amer. Creosote Wks., Inc., New Orleans.  
Ayer & Lord Tie Co., Inc., Chicago.

**CREOSOTING (Wood Material.)**  
Amer. Creosote Wks., Inc., New Orleans.  
Amer. Creosoting Co., Inc., Louisville, Ky.  
Atlantic Creosoting Co., Norfolk, Va.  
Brown Wood Preserving Co., Louisville, Ky.  
Eppinger & Russell Co., New York, N. Y.  
Gulf States Creos. Co., Hattiesburg, Miss.

**CROSS-ARMS (Creosoted.)**  
Amer. Creosote Wks., Inc., New Orleans.  
Amer. Creosoting Co., Inc., Louisville, Ky.  
Atlantic Creosoting Co., Norfolk, Va.

**(Zinc Meta Arsenite Treated.)**  
Curtin-Howe Corp., New York, N. Y.

**CROSS-TIES (Creosoted.)**  
Amer. Creosote Wks., Inc., New Orleans.  
Amer. Creosoting Co., Inc., Louisville, Ky.  
Atlantic Creosoting Co., Norfolk, Va.

**(Zinc Meta Arsenic Treated.)**  
Curtin-Howe Corp., New York, N. Y.

**CRUSHED STONE (Road Concrete and Ballast.)**  
American Limestone Co., Knoxville, Tenn.  
Boxley & Co., W. W., Roanoke, Va.

**CRUSHERS (Coal and Coke.)**  
Fuller Lehigh Co., Fullerton, Pa.  
Steward Machine Co., Chas. C., Birmingham, Ala.

**(Rock.)**  
Diamond Iron Works, Minneapolis, Minn.  
Gruendler Crusher & Pulverizer Co., St. Louis, Mo.

**CRUSHING and Pulverizing Machinery.**  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Fairbanks, Morse & Co., Chicago, Ill.  
General Electric Co., Schenectady, N. Y.  
Partridge, Arthur S., St. Louis, Mo.  
Rockford Power Machy. Co., Rockford, Ill.  
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

**CULVERT PIPE (Cast Iron.)**  
Amer. Cast Iron Pipe Co., Birmingham.  
Cast Iron Pipe Research Assn., Chicago.  
National Cast Iron Pipe Co., Birmingham.  
U. S. Pipe & Foundry Co., Burlington, N. J.

**(Corrugated Metal.)**  
American Sheet & Tin Plate Co., Pittsburgh, Pa.

**CURB PROTECTOR. (Steel Bar.)**  
Truscon Steel Co., Youngstown, Ohio.

**CYLINDERS (Compressed Air, Gas.)**  
National Tube Co., Pittsburgh, Pa.

**(Creosoting.)**  
Aero Products, Inc., New York, N. Y.

**DAMPROOFING.**  
Headley Emulsified Products Co., Philadelphia, Pa.

**DESKS (School.)**  
Andrews Co., A. H., Chicago, Ill.

**DITCHING MACHINERY.**  
Barber-Green Co., Aurora, Ill.  
Bay City Shovels, Inc., Bay City, Mich.  
Harnischfeger Corp., Milwaukee, Wis.  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.

**DOORS (Bronze.)**  
Michaels Art Bronze Co., Covington, Ky.

**(Fire.)**  
Merchant & Evans Co., Philadelphia, Pa.

**(Fireproof, Air Chamber.)**  
Wilson Corp., The J. G., New York.

**(Revolving.)**  
Michaels Art Bronze Co., Covington, Ky.

**(Rolling, Steel and Wood.)**  
Wilson Corp., The J. G., New York.

**(Steel.)**  
Truscon Steel Co., Youngstown, Ohio.

**(Vault.)**  
York Safe & Lock Co., York, Penna.

**DRAFTSMEN'S SUPPLIES.**

Weber Co., Inc., F., Philadelphia, Pa.

**DRAGLINE EXCAVATORS.**

Bucyrus-Erie Co., So., Milwaukee, Wis.  
Harnischfeger Corp., Milwaukee, Wis.  
National Equipment Corp. (Koehring, Inslay) Milwaukee, Wis.

**DRILLING CONTRACTORS.**  
Kennedy-Bieger Drilling Co., New York City.

**DREDGING (River and Harbor Improvement.)**  
Arundel Corp., The, Baltimore, Md.  
Atlantic Gulf and Pacific Co., New York.

**DRILLING CONTRACTORS.**

Kennedy-Bieger Drilling Co., New York City.

**DROPS-FORGING MACHINERY.**  
Bliss Co., E. W., Brooklyn, N. Y.

**DRYERS (Gravel and Sand.)**  
Ripley Fdy. & Mch. Co., Ripley, Ohio.

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Chicago Bridge & Iron Wks., Birmingham.

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Sonneborn Sons, Inc., L., New York.

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Du Pont De Nemours & Co., Inc., E. I. Wilmington, Del.

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Babcock & Wilcox Co., New York.

**ECONOMISTS (Administrative.)**  
Brookmire Economic Service, New York City.

**ELECTRICAL Instruments and Supplies.**

General Electric Co., Schenectady, N. Y.  
Western Electric Co., New York City.

**Machinery (Generators, Motors, etc., New.)**

Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Fairbanks, Morse & Co., Chicago, Ill.

General Electric Co., Schenectady, N. Y.  
Partridge, Arthur S., St. Louis, Mo.

Rockford Power Machy. Co., Rockford, Ill.

**Machinery Repairing (Motors, Generators, etc.)**

Electric Service Co., Cincinnati, Ohio.

**Machinery (Generators, Motors, etc., Used.)**

Delta Equipment Co., Philadelphia, Pa.

Electric Service Co., Cincinnati, Ohio.

General Electric Co., Schenectady, N. Y.  
O'Brien Machinery Co., The, Phila., Pa.

Randall Machinery Co., The Cincinnati, O.

Rockford Power Machy. Co., Rockford, Ill.

**Machinery Repairing (Motors, Generators, etc.)**

Electric Service Co., Cincinnati, Ohio.

**MACHINERY (Generators, Motors, etc., New.)**

Harrub Engr. Co., Milwaukee, Wis.

Hills and Youngberg, Jacksonville, Fla.

Huey, S. E., Monroe, La.

**(Efficiency.)**

Ernst & Ernst, New York, N. Y.

Whitman, Requardt & Smith, Balto., Md.

**(Electrical.)**

Engineering Service Corp., Houston, Tex.

Hoosier Engineering Co., Chicago, Ill.

Lee Engineering Corp., William S., Char-

lotte, N. C.

Main, Inc., Chas. T., Boston, Mass.

Sanderson & Porter, New York, N. Y.

Schofield Engineering Co., Philadelphia.

Tucker & Paxton, Charlotte, N. C.

White Engineering Corp., J. G., New York.

White Co., Gilbert C., Durham, N. C.

Wiley & Wilson, Lynchburg, Va.

**(Drainage and Irrigation.)**

Cramer, Robert, Milwaukee, Wis.

Hills and Youngberg, Jacksonville, Fla.

Huey, S. E., Monroe, La.

**(Efficiency.)**

Ernst & Ernst, New York, N. Y.

Whitman, Requardt & Smith, Balto., Md.

**(Electrical.)**

Engineering Service Corp., Houston, Tex.

Hoosier Engineering Co., Chicago, Ill.

Lee Engineering Corp., William S., Char-

lotte, N. C.

Main, Inc., Chas. T., Boston, Mass.

Sanderson & Porter, New York, N. Y.

Schofield Engineering Co., Philadelphia.

Tucker & Paxton, Charlotte, N. C.

White Engineering Corp., J. G., New York.

White Co., Gilbert C., Durham, N. C.

Wiley & Wilson, Lynchburg, Va.

**(Flood Control.)**

Harza Engineering Co., Chicago.

**(Gas.)**

Bylesby Engineering and Management

Corp., Chicago, Ill.

Cramer, Robert, Milwaukee, Wis.

Lee Engineering Corp., William S., Char-

lotte, N. C.

Main, Inc., Chas. T., Boston, Mass.

Sanderson & Porter, New York, N. Y.

Schofield Engineering Co., Philadelphia.

Tucker & Paxton, Charlotte, N. C.

White Engineering Corp., J. G., New York.

White Co., Gilbert C., Durham, N. C.

Wiley & Wilson, Lynchburg, Va.

**(Geological.)**

De Kalb, Courtenay, New York City.

Froehling & Robertson, Richmond, Va.

Moss, Jr., W. Wade, Columbus, Ga.

Wadleigh & Bailey, Washington, D. C.

**(Harbor Improvements.)**

Engineering Service Corp., Houston, Tex.

**(Heating.)**

Wiley & Wilson, Lynchburg, Va.

**(Hydraulic.)**

American Elevator & Machine Co., Inc.

Louisville, Ky.

**(Industrial Plants.)**

Barstow & Co., W. S., New York City.

Consoer, Older & Quinlan, Inc., Chicago.

Converse & Co., J. B., Mobile, Ala.

Gardner & Howe, Memphis, Tenn.

Greiner & Co., J. E., Baltimore, Md.

Hill & Youngberg, Jacksonville, Fla.

Huey, S. E., Monroe, La.

MacElwee & Crandall, Inc., Cambridge, Mass.

Wiedeman & Singleton, Inc., Atlanta, Ga.

**(Ice and Refrigerating.)**

Engineering Service Corp., Houston, Tex.

**(Industrial Survey.)**

Converse & Co., J. B., Mobile, Ala.

Lockwood Greene Engrs., Inc., New York.

Wadleigh & Bailey, Washington, D. C.

**(Inspection and Tests.)**

Barrow-Agee Laboratories, Memphis, Tenn.

Conard, William R., Burlington, N. J.

Cramer, Robert, Milwaukee, Wis.

Dow & Smith, New York, N. Y.

Fronthing & Robertson, Inc., Richmond, Va.

Hunt, Robert W., Chicago, Ill.

McCallum Inspection Co., Norfolk, Va.

Moss, Jr., W. Wade, Columbus, Ga.

Picard Laboratories, Birmingham, Ala.

Pittsburgh Testing Laboratories, Pitts-

burgh, Pa.

Southwestern Laboratories, Ft. Worth, Tex.

**(Lighting.)**

Bylesby Engineering & Management

Corp., Chicago, Ill.

Westinghouse Lamp Co., New York City.

Wiley & Wilson, Lynchburg, Va.

**(Mechanical.)**

Engineering Service Corp., Houston, Tex.

Lee Engineering Corp., William S., Char-

lotte, N. C.

Lockwood Greene Engr., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.

Meigs, Bassett & Slaughter, Phila., Pa.

Sanderson & Porter, New York, N. Y.

Wiley & Wilson, Lynchburg, Va.

**(Mining. See Engineers, Ge-**

**ological.)**

Consoer, Older & Quinlan, Inc., Chicago.

Dow & Smith, New York, N. Y.

Freeland, Robert & Co., Nashville, Tenn.

Harrub Engr. Co., C. N., Nashville, Tenn.

White Co., Gilbert C., Durham, N. C.

Wiley & Wilson, Lynchburg, Va.

**(Paving and Roads.)**

Dow & Smith, New York, N. Y.

Freeland, Robert

**Production.**  
 Scofield Engineering Co., Philadelphia.  
 (Public Service Properties.)  
 Barstow & Co., W. S., New York City.  
 Bylesby Engineering & Management Corp., Chicago, Ill.  
 Knowles, Inc., Morris, Pittsburgh, Pa.  
 Main, Inc., Chas. T., Boston, Mass.  
 Sanderson & Porter, New York, N. Y.  
 Scofield Engineering Co., Philadelphia.  
 White Engineering Corp., J. G., N. Y.  
 (Railroad.)  
 Huey, S. E., Monroe, La.  
**(Reinforced Concrete Bridges, Buildings, etc.)**  
 Freeland, Roberts & Co., Nashville, Tenn.  
 Gardner & Howe, Memphis, Tenn.  
 Greiner & Co., J. E., Baltimore, Md.  
 Lockwood Greene Engrs., Inc., New York.  
 Main, Inc., Chas. T., Boston, Mass.  
 Steel & Leiby, Knoxville, Tenn.  
 Tucker & Laxton, Charlotte, N. C.  
 Turner, C. A. P., Minneapolis, Minn.  
 Wheeler, Walter H., Minneapolis, Minn.  
 (Sales Analysis.)  
 May, Inc., Geo. S., Chicago, Ill.  
 (Sanitary.)  
 Cramer, Robert, Milwaukee, Wis.  
 Haras Engineering Co., Chicago.  
 Whitman, Requardt & Smith, Balto., Md.  
 Wiley & Wilson, Lynchburg, Va.  
 (Sewage Disposal Plants.)  
 Cramer, Robert, Milwaukee, Wis.  
 McCrary Co., The, J. B., Atlanta, Ga.  
 Whitman, Requardt & Smith, Balto., Md.  
 Wiedeman and Singleton, Inc., Atlanta.  
 Wiley & Wilson, Lynchburg, Va.  
 (Sewerage and Waterworks.)  
 Conard, William R., Burlington, N. J.  
 Conover, Older & Quinlan, Inc., Chicago.  
 Hardaway Contracting Co., Columbus, Ga.  
 Harrub Engr. Co., C. N., Nashville, Tenn.  
 Hills and Youngberg, Jacksonville, Fla.  
 Knowles, Inc., Morris, Pittsburgh, Pa.  
 Sanderson & Porter, New York, N. Y.  
 Tucker & Laxton, Charlotte, N. C.  
 White Co., Gilbert C., Durham, N. C.  
 White Engineering Corp., J. G., New York.  
 Whitman, Requardt & Smith, Balto., Md.  
 Wiedeman and Singleton, Inc., Atlanta.  
 Wiley & Wilson, Lynchburg, Va.  
 (Structural.)  
 Freeland, Roberts & Co., Nashville, Tenn.  
 Hendrik, Inc., Ira G., Hot Springs Nat'l. Park, Ark.  
 Hills and Youngberg, Jacksonville, Fla.  
 Huey, S. E., Monroe, La.  
 Lockwood Greene Engrs., Inc., New York.  
 Southern Erectors, Inc., Tampa, Fla.  
 Turner, C. A. P., Minneapolis, Minn.  
 United Engineers & Constructors, Phila.  
 Virginia Bridge & Iron Co., Roanoke, Va.  
 Whitman, Requardt & Smith, Balto., Md.  
 (Textile Mills.)  
 Lockwood Greene, Engrs., Inc., New York.  
 Main, Inc., Chas. T., Boston, Mass.  
 Shrine & Co., J. E., Greenville, S. C.  
 (Transmission Lines.)  
 Hoosier Engineering Co., Chicago, Ill.  
 (Ventilating and Heating.)  
 Wiley & Wilson, Lynchburg, Va.  
 (Water Supply.)  
 Whitman, Requardt & Smith, Balto., Md.  
 Wiley & Wilson, Lynchburg, Va.  
**ENGINES (Compressed Air.)**  
 Dake Engine Co., Grand Haven, Mich.  
 (Diesel Type.)  
 Fairbanks, Morse & Co., Chicago, Ill.  
 (Gas and Gasoline.)  
 Sterling Engine Co., Buffalo, N. Y.  
 (Marine.)  
 Fairbanks, Morse & Co., Chicago, Ill.  
 (OIL.)  
 Continental Gin Co., Birmingham, Ala.  
 (Steam.)  
 Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
 Lombard Iron Works & Supply Co., Augusta, Ga.  
 Schofield's Sons Co., J. S., Macon, Ga.  
**ENVELOPES.**  
 Young & Selden Co., Baltimore, Md.  
**ESTIMATORS (Building & Construction.)**  
 Martin, Joe E., Charlotte, N. C.  
**EXCAVATING MACHINERY.**  
 Bay City Shovels, Inc., Bay City, Mich.  
 Bucyrus-Erie Co., So. Milwaukee, Wis.  
 Harnischfeger Corp., Milwaukee, Wis.  
 Industrial Brownhoist Corp., Cleveland.  
 National Equipment Corp., (Koehring, Inley, Parsons), Milwaukee, Wis.  
 Northwest Engineering Co., Chicago, Ill.  
 Owen Bucket Co., The, Cleveland, Ohio.  
 Thew Shovel Co., The, Lorain, Ohio.  
**EXCAVATORS (Clamshell and Orange Peel.)**  
 Northwest Engineering Co., Chicago, Ill.  
 Ohio Power Shovel Co., Lima, Ohio.  
 Thew Shovel Co., Lorain, Ohio.  
 (Dragline. See Dragline Excavators.)  
 (Trench.)  
 Barber-Greene Co., Aurora, Ill.  
 Bay City Shovels, Inc., Bay City, Mich.  
 Bucyrus-Erie Co., So. Milwaukee, Wis.  
 Harnischfeger Corp., Milwaukee, Wis.  
 Ohio Power Shovel Co., Lima, Ohio.

**EXPANSION JOINTS (Road and Street.)**  
 Carey Co., Phillip, Lockland, Cincinnati, Ohio.  
**EXPLOSIVES.**  
 Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.  
**FACTORY Management Systems.**  
 Ernst & Ernst, New York, N. Y.  
**FEED-WATER HEATERS and Purifiers.**  
 American Water Softener Co., Phila., Pa.  
 International Filter Co., Chicago, Ill.  
**FENCE POSTS (Creosoted.)**  
 American Creosoting Co., Louisville, Ky.  
 Ayer & Lord Tie Co., Chicago, Ill.  
**FENCING, ENTRANCE GATES (Iron, Steel and Wire.)**  
 American Steel and Wire Co., Balto., Md.  
 Cyclone Fence Co., Waukegan, Ill.  
 Gulf States Steel Co., Birmingham, Ala.  
 (Field and Industrial, Wire Fences.)  
 American Steel and Wire Co., Balto., Md.  
 Cyclone Fence Co., Waukegan, Ill.  
 Gulf States Steel Co., Birmingham, Ala.  
 Robertson Steel & Iron Co., W. F., Cincinnati, O.  
**FERTILIZER Mixing Plants**  
 Gruendler, Crusher & Pulverizer Co., St. Louis, Mo.  
**FILTER (For Domestic and Industrial Purposes.)**  
 American Water Softener Co., Phila., Pa.  
 Bacharach & Co., E. W. W., Kansas City, Mo.  
 International Filter Co., Chicago, Ill.  
 Roberts Filter Mfg. Co., Darby (Phila.), Pa.  
 (Cloth.)  
 Newark Wire Cloth Co., Newark, N. J.  
**FINANCING.**  
 Electric Bond & Share Co., New York.  
 Gay & Co., W. O., New York, N. Y.  
**FIREPROOF Building Material.**  
 Bannon Pipe Co., Louisville, Ky.  
 (Doors and Shutters.)  
 Wilson Corp., The J. G., New York City.  
**FITTINGS (Wire Rope.)**  
 American Steel & Wire Co., Chicago, Ill.  
 Boebling's Sons Co., John A., Trenton, N. J.  
**FLANGES (Iron and Steel.)**  
 Amer. Cast Iron Pipe Co., Birmingham.  
 Dart Mfg. Co., E. M., Providence, R. I.  
 National Cast Iron Pipe Co., Birmingham.  
 Taylor Forge & Pipe Wks., Chicago, Ill.  
 U. S. Pipe & Foundry Co., Burlington, N. J.  
 (Swivel.)  
 Marco Nordstrom Valve Company, San Francisco, Cal.  
**FLOOR (Asphalt Mastic.)**  
 Barber Asphalt Co., Philadelphia, Pa.  
 (Cork Composition.)  
 Congoleum-Nairn Inc., Kearny, N. J.  
 (Linoleum.)  
 Congoleum-Nairn Inc., Kearny, N. J.  
 (Northern Hard Maple.)  
 Holt Hardwood Co., Oconto, Wis.  
 (Open Steel.)  
 Blaw-Knox Co., Pittsburgh, Pa.  
 Iron on Steel Flooring Co., Jersey City, N. J.  
 (Covering.)  
 Congoleum-Nairn Inc., Kearny, N. J.  
 Hardner (Concrete.)  
 Sonneborn Sons, Inc., L., New York.  
 (Plates and Star Treads.)  
 Central Iron & Steel Co., Harrisburg, Pa.  
 (Wax.)  
 Congoleum-Nairn Inc., Kearny, N. J.  
**FLUMES.**  
 Alco Products, Inc., New York, N. Y.  
**FLUSH-TANK SIPHONS.**  
 Pacific Flush-Tank Co., New York, N. Y.  
**FORMED PRODUCTS (Roofing.)**  
 American Rolling Mill Co., Middletown.  
**FORMS, Steel (For Concrete Culverts, Roads, Streets, Curbs, Sidewalks, Tiles.)**  
 Blaw-Knox Co., Pittsburgh, Pa.  
**FOUNDRIES and Machine Shops.**  
 General Machine Works, York, Pa.  
 Glamorgan Pipe & Fdry. Co., Lynchburg, Va.  
 Goldens' Fdy. & Mch. Co., Columbus, Ga.  
 Lombard Iron Works & Supply Co., Augusta, Ga.  
 Mountain State Steel Foundries, Parkersburg, W. Va.  
 Richmond Foundry & Mfg. Co., Richmond, Va.  
 Savannah Machine & Fdry. Co., Savannah.  
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 Hill & Griffith Co., Cincinnati, O.

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Combustion Engr. Corp., New York City. —(Water-Cooled.) Combustion Engr. Corp., New York City. Fuller Lehigh Co., Fullerton, Pa.	Cement-Gum Co., Inc., Allentown, Pa. Cement Gum Construction Co., Chicago. Gunite Conc. & Constr. Co., Kansas City. Gunite Constr. Co., New York City. Rust Engineering Co., Birmingham, Ala.	Honorat Co., Jos., Cincinnati, O.	Georgia Marble Co., The, Tate, Ga.
<b>GALVANIZED Products.</b>	<b>GUNPOWDER.</b>	<b>KILNS (Cement.)</b>	<b>MATERIAL ELEVATORS.</b>
Birmingham Galvanizing Co., Birmingham, Ala. Cattie & Bros., Jos. P., Philadelphia, Pa. —Steel and Iron. American Rolling Mill Co., Middletown, O. American Sheet & Tin Plate Co., Pittsburgh, Pa. Granite City Steel Co., Granite City, Ill.	Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.	Aero Products, Inc., New York, N. Y.	National Equipment Corp., (Insley, C. H. & E.), Milwaukee, Wls.
<b>GALVANIZING (Cadmium Plating.)</b>	<b>GUNS (Hydraulic.)</b>	<b>LADDERS (Rolling.)</b>	<b>METAL-Cutting Machinery.</b>
Birmingham Galvanizing Co., Birmingham, Ala. —(Hot Dip.) Birmingham Galvanizing Co., Birmingham, Ala. Cattie & Bros., Jos. P., Philadelphia, Pa. Newport News Shipbuilding & Dry Dock Co., Newport News, Va.	Georgia Iron Works, Augusta, Ga.	Myers & Bro. Co., The F. E., Ashland, O.	Erie Gear & Machine Co., Phila., Pa. —Working Machinery. Bliss Co., E. W., Brooklyn, N. Y. Evenson & Son, Inc., Jos. T., St. Louis and New York.
<b>GAS HOLDERS.</b>	<b>HANGARS (Airplane.)</b>	<b>LAMPS (Incandescent.)</b>	<b>MILL MACHINERY and SUPPLIES.</b>
Chattanooga Boiler & Tank Co., Chattanooga, Tenn. Chicago Bridge & Iron Wks., Birmingham. —Producers Wood & Co., R. D., Philadelphia, Pa.	Blaw-Knox Co., Pittsburgh, Pa. Ingalls Iron Works, Birmingham, Ala.	Western Electric Co., New York City. Westinghouse Lamp Co., New York City.	Lombard Iron Works & Supply Co., Augusta, Ga.
<b>GASOLINE and KEROSENE.</b>	<b>HARBOR IMPROVEMENTS.</b>	<b>LANDSCAPE GARDENERS.</b>	<b>MIXERS.</b>
Gulf Refining Co., Pittsburgh, Pa.	Arundel Corp., Baltimore, Md. Atlantic, Gulf & Pacific Co., New York.	Howard-Hickory Co., Hickory, N. C.	National Equipment Corp., (Koehring, T. L. Smith, Kwik-Mix), Milwaukee, Wls.
<b>GASOLINE SHOVELS (See Shovels.)</b>	<b>HEATERS (Asphalt.)</b>	<b>LATHES.</b>	—(Asphalt.) Erie Machine Shops, Erie, Pa.
<b>GATES.</b>	Honorat Co., Jos., Cincinnati, O.	Sebastian Lathe Co., Cincinnati, Ohio.	—(Hot.) Koehring Co., Milwaukee, Wls.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.	<b>HEAT EXCHANGERS.</b>	<b>LIGHTING (Factory and Mill.)</b>	—(Mortar.) Chain Belt Co., Milwaukee, Wis. Jaeger Machine Co., Columbus, Ohio.
<b>GEARS.</b>	Aero Products, Inc., New York, N. Y.	Westinghouse Lamp Co., New York City.	—(Plaster.) Blystone Mfg. Co., Cambridge Springs, Pa. Chain Belt Co., Milwaukee, Wls. Dunning & Boschert Press Co., Syracuse, N. Y. Jaeger Machine Co., Columbus, Ohio.
DeLaval Steam Turbine Co., Trenton, N. J. Erie Gear & Machine Co., Phila., Pa. General Electric Co., Schenectady, N. Y.	<b>HEATING Apparatus (Engineers and Contractors.)</b>	<b>LININGS (Flue, Fire Clay.)</b>	<b>MOTORS (Electric.)</b>
—(Worm Reduction.) DeLaval Steam Turbine Co., Trenton, N. J.	Poe Piping & Heating Co., Greenville, S. C.	Lee Clay Products Co., Clearfield, Ky. Owensboro Sewer Pipe Co., Owensboro, Ky.	Allis-Chalmers Mfg. Co., Milwaukee, Wls. Armstrong & Bro. Co., E. S., Atlanta, Ga. Fairbanks, Morse & Co., Chicago, Ill. General Electric Co., Schenectady, N. Y. Western Electric Co., New York City. Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.
<b>GENERATORS, MOTORS (New)</b>	<b>HOISTS (Chain.)</b>	<b>LINOLEUM (Battleship, Embossed Inlaid, Inlaid, Jaspe.)</b>	<b>MOTOR TRUCKS.</b>
General Electric Co., Schenectady, N. Y. Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.	Wright Mfg. Co., Bridgeport, Conn. —(Electric.) Harnischfeger Corp., Milwaukee, Wls. Street Bros. Mch. Wks., Chattanooga, Tenn.	Congoleum-Nairn Inc., Kearny, N. J.	International Harvester Co. of America, Inc., Chicago, Ill.
<b>(Used.)</b>	<b>HOISTS (Gasoline.)</b>	<b>LITHOGRAPHERS and ENGRAVERS.</b>	<b>NAILS (Cut.)</b>
O'Brien Machinery Co., Phila., Pa. Randall Machinery Co., The, Cincinnati, O.	Dake Engine Co., Grand Haven, Mich. National Equipment Corp. (C. H. & E. Division), Milwaukee, Wls. Street Bros. Mch. Wks., Chattanooga, Tenn.	Smith & Son Co., Oscar T., Baltimore, Md. Young & Selden Co., Baltimore, Md.	Reading Iron Co., Reading, Pa. —and Spikes. American Steel & Wire Co., Balto., Md. Tennessee Coal, Iron & Railroad Co., Birmingham, Ala. Youngstown Sheet & Tube Co., Youngstown, Ohio.
<b>GEOLOGISTS. (See Engineers Geological.)</b>	<b>HOPPERS (Aggregate, Measuring and Weighing.)</b>	<b>LOADING and UNLOADING MACHINERY (Portable.)</b>	<b>NATURAL GAS COMPANIES.</b>
<b>GLASS (Art.)</b>	Blaw-Knox Co., Pittsburgh, Pa. Butler Bin Co., Waukesha, Wls.	Barber-Green Co., Aurora, Ill. Northwest Engineering Co., Chicago, Ill.	(Offering Industrial and Commercial Opportunities.) Southern Natural Gas Corp., Birmingham.
Hires Turner Glass Co., Philadelphia, Pa. —(Plate.) Hires Turner Glass Co., Philadelphia, Pa. Southwestern Sheet Glass Co., Okmulgee, Okla.	<b>HOTELS.</b>	<b>LOCOMOTIVES (Compressed Air.)</b>	<b>NURSERYMEN.</b>
—(Window.) Hires Turner Glass Co., Philadelphia, Pa. Pittsburgh Plate Glass Co., Pittsburgh. Southwestern Sheet Glass Co., Okmulgee, Okla.	Heiss Hotel Systems, St. Louis, Mo. Southern Hotel, The, Baltimore, Md.	Porter Co., H. K., Pittsburgh, Pa. —(Fireless Stored Steam.) Porter Co., H. K., Pittsburgh, Pa.	Howard-Hickory Co., Hickory, N. C.
—(Wire.) Hires Turner Glass Co., Philadelphia, Pa. Southwestern Sheet Glass Co., Okmulgee, Okla.	<b>HOUSE MOVING.</b>	—(Gasoline.) Porter Co., H. K., Pittsburgh, Pa. Whitcomb Locomotive Co., Rochelle, Ill.	<b>NUTS (Cold Punched.)</b>
<b>GRADERS (Elevating.)</b>	Eichleay, Jr., Co., John, Pittsburgh.	—(Industrial.) Porter Co., H. K., Pittsburgh, Pa. Southern Iron & Equipment Co., Atlanta. Whitcomb Locomotive Co., Rochelle, Ill.	Oliver Iron & Steel Corp., Pittsburgh, Pa. Russell, Burdsall & Ward Bolt & Nut Co., Port Chester, N. Y.
Caterpillar Tractor Co., Peoria, Ill.	<b>HUMIDIFYING AND DRYING EQUIPMENT.</b>	<b>HYDRAINTS (Fire.)</b>	<b>OIL (Fuel and Gas.)</b>
<b>GRAPHITE.</b>	Niagara Blower Co., New York, N. Y.	Ludlow Valve Mfg. Co., The, Troy, N. Y. Myers & Bros. Co., The, F. E., Ashland, O. Wood & Co., R. D., Philadelphia, Pa.	Gulf Refining Co., Pittsburgh, Pa.
Dixon Crucible Co., Jos., Jersey City, N. J.	<b>INCINERATORS.</b>	<b>LUBRICANTS.</b>	<b>PARTICLE WASHING MACHINERY.</b>
<b>GRATES and Grate Bars.</b>	D-N Corporation, Winston-Salem, N. C. Goder, Joseph, Chicago, Ill.	Dixon Crucible Co., Jos., Jersey City, N. J. Gulf Refining Co., Pittsburgh, Pa.	Georgia Iron Works, Augusta, Ga.
Schofeld's Sons Co., J. S., Macon, Ga.	<b>INCORPORATORS.</b>	<b>LUBRICATORS (Force Feed.)</b>	<b>ORNAMENTAL BRONZE WORK.</b>
<b>GRATING (Area, Flooring, Sidewalk.)</b>	Delaware Registration Trust Co., Wilmington, Del.	Lunkenheimer Co., The, Cincinnati, O.	Heath Co., J. S., Waukegan, Ill. Michaels Art Bronze Co., Covington, Ky.
Blaw-Knox Co., Pittsburgh, Pa. Hendrik Mfg. Co., Carbondale, Pa. Kerlow Steel Flooring Co., Jersey City, N. J.	<b>INSULATING BOARD.</b>	<b>LUMBER (Ceiling, Flooring, Siding.)</b>	—Iron Work. Austin Bros. Bridge Co., Atlanta, Ga. Roanoke Iron & Bridge Wks., Roanoke, Va. Sneed Architectural Iron Works, Louisville, Ky. Southern Engineering Co., Charlotte, N.C.
<b>GRAVEL (Roofing and Road.)</b>	Armstrong Cork & Insulation Co., Lancaster, Pa. United Cork Companies, Lyndhurst, N. J.	Jackson Lumber Co., Lockhart, Ala.	<b>PAINT (Metal Surfaces.)</b>
American Limestone Co., Knoxville, Tenn. Arundel Corp., The, Baltimore, Md. Boxley & Co., W. W., Roanoke, Va. Friend & Co., Inc., Petersburg, Va. Georgia Sand & Gravel Co., Augusta, Ga.	<b>IRON.</b>	—(Creosoted.) Amer. Creosote Wks., Inc., New Orleans. Amer. Creosoting Co., Inc., Louisville, Ky. Atlantic Creosoting Co., Norfolk, Va. Ayer & Lord Tie Co., Inc., Chicago. Eppinger & Russell Co., New York, N. Y. Gulf States Creos. Co., Hattiesburg, Miss.	Dixon Crucible Co., Jos., Jersey City, N. J.
<b>GREASE Cups.</b>	General Electric Co., Schenectady, N. Y.	—(Hardwoods, Cypress, etc.) Reynolds Bros. Lbr. Co., Albany, Ga.	—(Mild White, For Interior.) Sonneborn Sons, Inc., L., New York.
Lunkenheimer Co., The, Cincinnati, O.	—Materials.	—(Heavy Construction, Pitch, Pine, etc.) Reynolds Bros. Lbr. Co., Albany, Ga.	—(Preservative.) Cabot, Inc., Samuel, Boston, Mass.
<b>GRILLES (Brass, Bronze, Steel, etc.)</b>	—Quilt.	—(Zinc Meta Arsenic Treated.) Curtin-Howe Corp., New York City.	<b>PANELBOARDS.</b>
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.	Cabot, Inc., Samuel, Boston, Mass.	<b>MACHINERY (Special.)</b>	Adam Electric Co., Frank, St. Louis.
<b>GRINDERS WHEELS.</b>	<b>INVESTMENT SECURITIES.</b>	Bliss Co., E. W., Brooklyn, N. Y. Earle Gear & Machine Co., Phila., Pa. General Machine Works, York, Pa. Gerding Bros., Cincinnati, O.	<b>PARTITIONS (Sectionfold, Rolling, Wood.)</b>
Carborundum Co., Niagara Falls, N. Y.	Electric Bond & Share Co., New York. Gay & Co., W. O., New York City. Horchett Bond Co., Inc., The, Chicago, Ill.	—and Supplies (New and Used.) Adams Mch. Co., T. G., Savannah, Ga. Electric Service Co., Cincinnati, Ohio. Marine Metal & Supply Co., New York. O'Brien Machinery Co., The, Phila., Pa.	Wilson Corp., The, J. G., New York.
<b>GUARD RAIL (Road.)</b>	Nease & Co., John, Chicago. Provident Savings Bank & Trust Co., Cincinnati, Ohio. Whiting & Co., Inc., P. H., New York City.	—(Used.) Delta Equipment Co., Philadelphia, Pa. O'Brien Machinery Co., Philadelphia, Pa.	<b>PATENT ATTORNEYS.</b>
National Traffic Guard Co., Atlanta. Robertson Steel & Iron Co., W. F., Cincinnati, O.	<b>JAIL CELLS.</b>	<b>MAIL CHUTES.</b>	Buck, Sterling P., Washington, D. C. Coleman, Watson E., Washington, D. C. Eaton, Paul B., Charlotte, N. C. Sasnett, Edward C., Washington, D. C. Seymour & Bright, Washington, D. C.
<b>JOINTS (Pipe.)</b>	Roanoke Iron & Bridge Wks., Roanoke, Va.	Cutter Mail Chute Co., Rochester, N. Y.	<b>PATTERNS (Drawing, etc.)</b>
Leadite Co., Philadelphia, Pa.	<b>JOINTS (Pipes.)</b>	<b>PAVING Blocks (Creosoted Wood.)</b>	Haas Pattern Co., A. W., Atlanta, Ga. American Creosote Works, New Orleans.

**Brick.**  
National Paving Brick Assn., Washington, D. C.

**Mixers.**  
National Equipment Corp. (Koehring, T. L. Smith), Milwaukee, Wis.

**Plant (Asphalt.)**  
Simplicity System Co., Chattanooga, Tenn.

**PENSTOCKS.**  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Wks., Birmingham.  
Chicago News Shipbuilding & Dry Dock Co., Newport News, Va.  
Pittsburgh Des Moines Steel Co., Pittsburgh, Pa.  
Smith Co., S. Morgan, York, Pa.

**PERFORATED METAL.**  
Chicago Perforating Co., Chicago, Ill.  
Erdle Perforating Co., Rochester, N. Y.  
Harrington & King Perf. Co., Chicago.  
Hendrick Mfg. Co., Carbondale, Pa.  
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.  
Mundt & Sons, Charles, Jersey City, N. J.

**PETROLEUM REFINERS.**  
Gulf Refining Co., Pittsburgh, Pa.

**PHOSPHATE ACID.**  
Davison Chemical Co., Baltimore, Md.

**PIG-IRON.**  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

**PILING (Creosoted.)**  
Amer. Creosote Wks., Inc., New Orleans.  
Amer. Creosoting Co., Inc., Louisville.  
Atlantic Creosoting Co., Norfolk, Va.  
Ayer & Lord Tie Co., Inc., Chicago.

**(Steel Sheet.)**  
Carnegie Steel Co., Pittsburgh, Pa.  
Hyman-Michael Co., Chicago, Ill.  
Jones & Laughlin Steel Corp., Pittsburgh, Pa.  
Zelnicker Supply Co., W. A., St. Louis.

**(Yellow Pine.)**  
Jackson Lumber Co., Lockhart, Ala.

**PILLOW BLOCKS.**  
Goldens' Fdry. & Mch. Co., Columbus, Ga.

**PIPE.**  
Albert & Davidson Pipe Corp., Brooklyn, N. Y.  
Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.  
Birmingham Boiler & Engr. Co., Birmingham, Ala.  
Central Pipe & Supply Co., Charleston, W. Va.  
Greenspon's Sons Iron & Steel Co., St. Louis, Mo.  
Hudson Pipe & Supply Co., Bayonne, N. J.  
Maryland Pipe & Steel Corp., Baltimore, Md.  
National Tube Co., Pittsburgh, Pa.  
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.  
Power Piping Co., Pittsburgh, Pa.

**(Cast Iron.)**  
Amer. Cast Iron Pipe Co., Birmingham.  
Cast Iron Pipe Research Assn., Chicago.  
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.  
National Cast Iron Pipe Co., Birmingham, Ala.  
U. S. Pipe & Fdry. Co., Burlington, N. J.

**(Dredge.)**  
Lancaster Iron Works, Inc., Lancaster, Pa.

**(Hammer-Welded.)**  
National Tube Co., Pittsburgh, Pa.

**(Iron and Steel.)**  
American Rolling Mill Co., Middletown.

**(Second-Hand.)**

Albert & Davidson Pipe Corp., Brooklyn, N. Y.  
Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.  
Central Pipe & Sup. Co., Charleston, W. Va.  
Greenpoint Iron & Pipe Co., Inc., Brooklyn, N. Y.  
Hudson Pipe & Supply Co., Bayonne, N. J.  
Marine Metal & Supply Co., New York.  
Maryland Pipe & Steel Corp., Baltimore, Md.

**(Spiral Riveted.)**  
Taylor Forge & Pipe Wks., Chicago, Ill.

**(Spiral Welded.)**

American Rolling Mill Co., Middletown.

**(Steel.)**

Bethlehem Steel Co., Bethlehem, Pa.  
Chicago Bridge & Iron Wks., Birmingham.  
Jones & Laughlin Steel Corp., Pittsburgh, Pa.

National Tube Co., Pittsburgh, Pa.  
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.

Power Piping Co., Pittsburgh, Pa.

Youngstown Sheet & Tube Co., Youngstown, Ohio.

**(Steel, Large Diameter.)**

Alo Products, Inc., New York, N. Y.

**(Welded.)**

Welded Products Co. of La., Inc., New Orleans, La.

**(Wrought Iron.)**  
Reading Iron Co., Reading, Pa.

**Covering (Cork.)**  
United Cork Companies, Lyndhurst, N. J.

**Fittings.**  
Amer. Cast Iron Pipe Co., Birmingham.  
Georgia Iron Works, Augusta, Ga.

**Machinery (Concrete.)**  
Quinn Wire & Iron Works, Boone, Iowa.

**Unions and Joints.**

Dart Mfg. Co., E. M., Providence, R. I.

**Systems (Industrial.)**  
Moore Pipe & Sprinkler Co., Jacksonville, Fla.

Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.

Power Piping Co., Pittsburgh, Pa.

Southern Automatic Sprinkler Company, Birmingham.

**PLATES (Steel.)**  
American Rolling Mill Co., Middletown.  
Bethlehem Steel Co., Bethlehem, Pa.

Carnegie Steel Co., Pittsburgh, Pa.

Central Iron & Steel Co., Harrisburg, Pa.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Granite City Steel Co., Granite City, Ill.  
Gulf States Steel Co., Birmingham, Ala.

Jones & Laughlin Steel Corp., Pittsburgh, Pa.

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

Tennessee Coal, Iron & Railroad Co., Birmingham.

**POLES (Creosoted.)**

Amer. Creosote Wks., Inc., New Orleans.

Amer. Creosoting Co., Inc., Louisville, Ky.

Atlantic Creosoting Co., Norfolk, Va.

Ayer & Lord Tie Co., Inc., Chicago.

Brown Wood Preserving Co., Louisville, Ky.

**(Tubular, Steel.)**

National Tube Co., Pittsburgh, Pa.

**(Yellow Pine.)**

Jackson Lumber Co., Lockhart, Ala.

**(Zinc Meta Arsenite Treated.)**

Curtin-Hove Corp., New York City.

**POLISHING MACHINERY.**

(Wheels, Blocks.)

Carborundum Co., Niagara Falls, N. Y.

**POSTS, (Cast Iron, Railway and Highway.)**

U. S. Pipe & Foundry Co., Burlington, N. J.

**POWER TRANSMISSION MACHINERY.**

Diamond Chain & Mfg. Co., Indianapolis.

Goldens' Fdy. & Mch. Co., Columbus, Ga.

Schofield's Sons Co., J. S., Macon, Ga.

**PREHEATERS (Air.)**

Combustion Engr. Corp., New York City.

**PRESSES, (Baling, Cottonseed Oil, Hydraulic and Power.)**

Dunning & Boschert Press Co., Inc., Syracuse, N. Y.

Ripley Foundry & Machine Co., Ripley, O.

**(Metal Stamping.)**

Bliss Co., E. W., Brooklyn, N. Y.

**PRINTERS (Book, Catalog, Job.)**

Smith & Son Co., Oscar T., Baltimore, Md.

Young & Selden Co., Baltimore, Md.

**PRODUCER (Gas Machines.)**

Wood & Co., R. D., Phila., Pa.

**PULLEYS (Friction Clutch.)**

Caldwell Co., Inc., W. E., Louisville, Ky.

**Shafting and Hangers.**

Goldens' Fdy. & Mch. Co., Columbus, Ga.

**PULVERIZED COAL EQUIPMENT.**

Combustion Engr. Corp., New York, N. Y.

Fuller Lehigh Co., Fullerton, Pa.

**PULVERIZERS (See Crushing and Pulverizing Machinery.)**

**PUMPING MACHINERY.**

American Well Works, Aurora, Ill.

Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.

Fairbanks Morse & Co., Chicago, Ill.

Mac & Bro. Co., The P. E., Ashland, O.

National Equipment Corp. (C. H. & E. Division), Milwaukee, Wis.

Petersburg Mchly. Pump & Well Co., Petersburg, Va.

Virginia Mchly. & Well Co., Richmond, Va.

**PUMPS (Air.)**

Manisteet Iron Works Co., Manisteet, Mich.

**(Boiler Feed.)**

Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City

## SALT GLAZED SEWER AND CULVERT PIPE

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Plain, Coated or  
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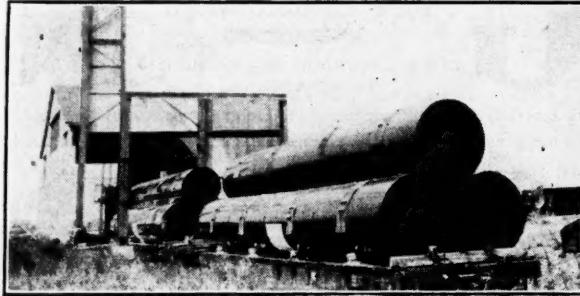
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Manistee Iron Works Co., Manistee, Mich.  
Myers & Bro. Co., The F. E., Ashland, O.  
—(Centrifugal.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
American Well Works, Aurora, Ill.  
Cameron, A. S., Steam Pump Works  
(Ingersoll-Rand Co.), New York City.  
DeLaval Steam Turbine Co., Trenton, N.J.  
Fairbanks, Morse & Co., Chicago, Ill.  
Jaeger Machine Co., Columbus, Ohio.  
LaBour Co., Elkhart, Ind.  
Layne & Bowler, Inc., Memphis, Tenn.  
Manistee Iron Works Co., Manistee, Mich.

—(Deep Well.)  
American Well Works, Aurora, Ill.  
Cook, Inc., A. D., Lawrenceburg, Ind.  
Layne & Bowler, Inc., Memphis, Tenn.

—(Hydraulic.)  
Dunning & Boschart Press Co., Inc.,  
Syracuse, N. Y.

—(Power.)  
American Well Works, Aurora, Ill.  
—(Pulverized Coal.)  
Fuller Lehigh Co., Fullerton, Pa.

—(Sand and Dredging.)  
Georgia Iron Works, Augusta, Ga.  
—(Steam.)

Cameron, A. S., Steam Pump Works  
(Ingersoll-Rand Co.), New York City.  
Fairbanks, Morse & Co., Chicago, Ill.

—(Water Works.)  
American Well Works, Aurora, Ill.  
Layne & Bowler, Inc., Memphis, Tenn.  
Manistee Iron Works Co., Manistee, Mich.

### PUNCHING AND SHEARING MACHINERY.

Bliss Co., E. W., Brooklyn, N. Y.  
Whitney Metal Tool Co., Rockford, Ill.

### RACK RAKES.

Newport News Shipbuilding & Dry Dock  
Co., Newport News, Va.

### RADIATOR ENCLOSURES.

Manhattan Perforated Metal Co., Inc.,  
Long Island City, N. Y.

### RAILINGS (Iron Pipe.)

Pipe Railing Constr. Co., Long Island  
City, N. Y.

### RAILROAD Equipment and Sup- plies (New.)

Robinson & Orr, Pittsburgh, Pa.

### —Equipment and Supplies.

Levis & Co., Henry, Philadelphia, Pa.  
Smith & Co., W. M., Birmingham, Ala.  
Southern Iron and Equip. Co., Atlanta, Ga.  
Zelnicker Supply Co., W. A., St. Louis.

### —(Frogs and Switches.)

Bethlehem Steel Co., Bethlehem, Pa.

Robinson & Orr, Pittsburgh, Pa.

### RAILROADS — (Offering Indus- trial, Agricultural and Com- mercial Opportunities.)

Atlanta and West Point R. R., Atlanta,

Central of Georgia Rwy., Savannah, Ga.

Model Land Company, Flagler System,

St. Augustine, Fla.

Norfolk & Western Railway, Roanoke, Va.

### RAILS (New and Used.)

Carnegie Steel Co., Pittsburgh, Pa.

Hyman-Michaels Co., Chicago, Ill.

Levis & Co., Henry, Philadelphia, Pa.

Perry, Buxton, Doane Co., Philadelphia.

Robinson & Orr, Pittsburgh, Pa.

Smith & Co., W. M., Birmingham, Ala.

Southern Iron & Equip. Co., Atlanta, Ga.

Sweet's Steel Co., Williamsport, Pa.

Tennessee Coal, Iron & Railroad Co.,

Birmingham, Ala.

Zelnicker Supply Co., W. A., St. Louis.

### RAILWAYS (Marine.)

Charleston Dry Dock and Machine Co.,

Charleston, S. C.

### RECEPTACLES (Self-Closing — Waste Paper.)

Whitaker Paper Co., Baltimore, Md.

### REFRIGERATING Machinery (See Ice and Refrigerating Ma- chinery and Supplies.)

### REINFORCING for Concrete.

American Steel and Wire Co., Balt., Md.

Austin Bros. Bridge Co., Atlanta, Ga.

Carnegie Steel Co., Pittsburgh, Pa.

Dietrich Brothers, Baltimore, Md.

Gulf States Steel Co., Birmingham, Ala.

Jones & Laughlin Steel Corp., Pitts-

burgh, Pa.

Oliver Iron & Steel Corp., Pittsburgh, Pa.

Ryerson & Sons, Inc., Jos. T., St. Louis

and New York.

Southern Engineering Co., Charlotte, N. C.

Truscon Steel Co., Youngstown, Ohio.

### RIVER & HARBOR IMPROVE- MENTS, (Dredging, Docks, Wharves, etc.)

Arundel Corp., The, Baltimore, Md.

Atlantic Gulf and Pacific Co., New York.

Kansas City Bridge Co., Kansas City.

### RIVETS.

Russell, Burdsall & Ward Belt & Nut  
Co., Port Chester, N. Y.

### ROAD and Street Machinery.

Austin-Western Road Machy. Co., Chi-  
cago.

Blaw-Knox Co., Pittsburgh, Pa.

Buffalo-Springfield Roller Co., Spring-  
field, O.

Caterpillar Tractor Co., Peoria, Ill.

Erie Machine Shops, Erie, Pa.

Gillie Machine Co., Tonawanda, N. Y.

Harris Co., B. W. & Leo, Minneapolis,  
Minn.

Huber Mfg. Co., The, Marion, Ohio.

Universal Crane Co., Lorain, Ohio.

### —and Street Material.

Boxley & Co., W. W., Roanoke, Va.

Dickinson & Co., J. Q., Malden, W. Va.

Truscon Steel Co., Youngstown, Ohio.

Woodstock Slag Corp., Birmingham, Ala.

### —and Street Material (Dust Laying.)

Dickinson & Co., J. Q., Malden, W. Va.

### —Graders and Scrapers.

Austin-Western Road Machy. Co., Chicago.

Caterpillar Tractor Co., Peoria, Ill.

### —Oils and Preservatives.

Gulf Refining Co., Pittsburgh, Pa.

### —Rollers (Steam and Gasoline.)

Austin-Western Road Machy. Co., Chicago.

Buffalo-Springfield Roller Co., Spring-  
field, O.

Erie Machine Shops, Erie, Pa.

Huber Mfg. Co., The, Marion, Ohio.

### —Scrapifiers.

Austin-Western Road Machy. Co., Chicago.

Buffalo-Springfield Roller Co., Spring-  
field, O.

### ROOF INSULATION.

Armstrong Cork & Insulation Co., Lan-  
caster, Pa.

United Cork Companies, Lyndhurst, N. J.

### ROOFING (Asphalt Built-Up.)

Barber Asphalt Co., Philadelphia, Pa.

### —(Ready Prepared, Felt, Tar, Asbestos, Asphalt.)

Ruberoid Co., New York City.

### —and Siding (Composition.)

Ruberoid Co., New York City.

### —and Siding (Metal.)

American Rolling Mill Co., Middletown, O.

American Sheet and Tin Plate Co., Pitts-  
burgh, Pa.

Gulf State Steel Co., Birmingham, Ala.

Ryerson & Son, Jos. T., St. Louis and  
New York.

Truscon Steel Co., Youngstown, Ohio.

Youngstown Sheet and Tube Co., Youngs-  
town, O.

### —Tile, Cement (Interlocking Flat, Channel Glass.)

Federal-American Cement Tile Co., Chi-  
cago.

### —Tiles.

Federal-American Cement Tile Co., Chi-  
cago.

### RULES (Steel.)

Lufkin Rule Co., Saginaw, Mich.

### SAFES.

York Safe & Lock Co., York, Penna.

### SAND.

Arundel Corp., Baltimore, Md.

Friend & Co., Inc., Petersburg, Va.

Georgia Sand & Gravel Co., Augusta, Ga.

### SANITARY Drinking Fountains.

Rundle-Spence Mfg. Co., Milwaukee, Wis.

### SASH (Industrial.)

Truscon Steel Co., Youngstown, Ohio.

### SAWMILL Machinery.

Schofield's Sons Co., J. S., Macon, Ga.

### SAW RIGS.

National Equipment Corp., (C. H. & E.  
Division), Milwaukee, Wis.

### SAWS (Cold Metal.)

Earle Gear and Machine Co., Phila., Pa.

### SCRAPERS (Drag and Wheel.)

Austin-Western Road Machy. Co., Chicago.

Harris Co., B. W. & Leo, Minneapolis,  
Minn.

### SCREEN CLOTH.

Seneca Wire & Mfg. Co., Fostoria, Ohio.

### SCREENING (For Concrete and Road Construction.)

American Limestone Co., Knoxville, Tenn.

### SCREENS (Sand, Gravel, Stone, Coal, Ore, etc.)

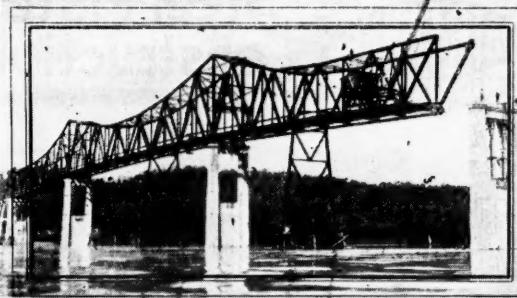
Chicago Perforating Co., Chicago, Ill.

Diamond Iron Works, Minneapolis, Minn.

Erdle Perforating Co., Rochester, N. Y.

**Gruendler Crusher & Pulverizer Co.**, St. Louis, Mo.  
**Hendrick Mfg. Co.**, Carbondale, Pa.  
**Mundt & Sons**, Charles, Jersey City, N.J.  
**Universal Crusher Co.**, Cedar Rapids, Ia.  
**—(Sifting.)**  
**Newark Wire Cloth Co.**, Newark, N.J.  
**SCREW-Machine Products.**  
**Progressive Mfg. Co.**, Torrington, Conn.  
**SCREWS (Machine.)**  
**Progressive Mfg. Co.**, Torrington, Conn.  
**SEAWALLS.**  
**Shore-Line Builders, Inc.**, Jacksonville, Fla.  
**SEWAGE Disposal Apparatus.**  
**Pacific Flush-Tank Co.**, New York, N.Y.  
**—Disposal System.**  
**D-N Corporation**, Winston-Salem, N.C.  
**SEWER Joint Compounds.**  
**Leadite Co.**, Philadelphia, Pa.  
**Pacific Flush-Tank Co.**, New York, N.Y.  
**—Pipe (Vitrified.)**  
**Bannon Pipe Co.**, Louisville, Ky.  
**Lee Clay Products Co.**, Clearfield, Ky.  
**Owensboro Sewer Pipe Co.**, Owensboro, Ky.  
**—Pipe Machinery (Concrete.)**  
**Quinn Wire & Iron Works**, Boone, Iowa.  
**SHAFTING.**  
**Ryerson & Sons, Inc.**, Jos. T., St. Louis and New York.  
**—Material (Tubular.)**  
**National Tube Co.**, Pittsburgh, Pa.  
**SHARPENING Stones.**  
**Carborundum Co.**, Niagara Falls, N.Y.  
**SHEET Metal Working Machinery.**  
**Bliss Co.**, E. W., Brooklyn, N.Y.  
**Whitney Metal Tool Co.**, Rockford, Ill.  
**Yoder Co.**, The, Cleveland, Ohio.  
**—Steel and Iron.**  
**American Sheet and Tin Plate Co.**, Pittsburgh, Pa.  
**Bethlehem Steel Co.**, Bethlehem, Pa.  
**Granite City Steel Co.**, Granite City, Ill.  
**Gulf States Steel Co.**, Birmingham, Ala.  
**Ryerson & Son, Inc.**, Jos. T., St. Louis and New York.  
**Tennessee Coal, Iron & Railroad Co.**, Birmingham, Ala.  
**Youngstown Sheet & Tube Co.**, Youngstown, O.  
**SHEETS (Asbestos.)**  
**Ruberoid Co.**, New York City.  
**—(Galvanized and Black.)**  
**American Rolling Mill Co.**, Middletown.  
**American Sheet & Tin Plate Co.**, Pittsburgh, Pa.  
**SHINGLES (Asbestos.)**  
**Ruberoid Co.**, New York City.  
**SHIPBUILDING.**  
**Charleston Dry Dock & Machine Co.**, Charleston, S.C.  
**Newport News Shipbuilding & Dry Dock Co.**, Newport News, Va.  
**SHOVELS (Steam, Gas and Electric Power.)**  
**Cyrus-Erie Co.**, So., Milwaukee, Wis.  
**Harnischfeger Corp.**, Milwaukee, Wis.  
**Industrial Brownhoist Corp.**, Cleveland, O.  
**National Equipment Corp.**, (Koehring), Milwaukee, Wis.  
**Northwest Engineering Co.**, Chicago, Ill.  
**Ohio Power Shovel Co.**, Lima, Ohio.  
**Tew Shovel Co.**, The, Lorain, Ohio.  
**SHUTTERS (Steel.)**  
**Merchant & Evans Co.**, Philadelphia, Pa.  
**SIEVES (Testing.)**  
**Newark Wire Cloth Co.**, Newark, N.J.  
**SILICATE OF SODA.**  
**Grasselli Chemical Co., Inc.**, Birmingham.  
**SITES (Manufacturing.)**  
**Atlanta and West Point R.R.**, Atlanta.  
**Central of Georgia Rwy.**, Savannah, Ga.  
**Crisp County Power Commission**, Cordele, Ga.  
Danville, City of Danville, Va.  
Galveston, City of Galveston, Texas.  
Georgia Power Co., Atlanta, Ga.  
Missouri-Kansas-Texas Lines, Dallas, Tex.  
Model Land Company, (Flagler System), St. Augustine, Fla.  
Norfolk & Western Railway, Roanoke, Va.  
Parkersburg, W. Va., Board of Commerce.  
Reynolds Bros. Lbr. Co., Albany, Ga.  
Southern Natural Gas Corp., Birmingham.  
Texas Power & Light Co., Dallas, Texas.  
**SLABS (Concrete Floor.)**  
**Federal-American Cement Tile Co.**, Chicago.  
**—(Concrete Roof.)**  
**Federal-American Cement Tile Co.**, Chicago.  
**SLAG, For Concrete.**  
**Woodstock Slag Corp.**, Birmingham, Ala.

—(Furnace.)  
**Woodstock Slag Corp.**, Birmingham, Ala.  
**SLINGS (Chain.)**  
**Woodhouse Chain Works**, Trenton, N.J.  
**—(Wire Rope.)**  
**American Steel & Wire Co.**, Chicago, Ill.  
**Boehling's Sons Co.**, John A., Trenton, N.J.  
**SLUICE GATES AND APPLIANCES.**  
**Smith Co.**, S. Morgan, York, Pa.  
**SPEED REDUCERS.**  
**Earle Gear & Mach. Co.**, Phila., Pa.  
**SPIKES (Railroad, Ship.)**  
**Bethlehem Steel Co.**, Bethlehem, Pa.  
**Sweet's Steel Co.**, Williamsport, Pa.  
**SPREADER (Surfacing Material.)**  
**Gillie Machine Co.**, Tonawanda, N.Y.  
**SPRINGS (Machinery, Railway, Spiral Steel.)**  
**American Steel & Wire Co.**, Balto., Md.  
**—(Wire—All Kinds.)**  
**American Steel & Wire Co.**, Balto., Md.  
**SPRINKLERS (Automatic Fire.)**  
**Moore Pipe & Sprinkler Co.**, Jacksonville, Fla.  
**Southern Automatic Sprinkler Co.**, Birmingham.  
**SPROCKETS.**  
**Diamond Chain & Mfg. Co.**, Indianapolis, Ind.  
**STACKS (Iron and Steel.)**  
**Birmingham Boiler and Engineering Co.**, Birmingham, Ala.  
**Chattanooga Boiler & Tank Co.**, Chattanooga, Tenn.  
**Chicago Bridge & Iron Wks.**, Birmingham.  
**Downington Iron Works**, Downington, Pa.  
Hedges Walsh Weldner Co., Chattanooga, Tenn.  
Ingalls Iron Works Co., Birmingham, Ala.  
Lombard Iron Works & Supply Co., Augusta, Ga.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Schofield's Sons Co., J. S., Macon, Ga.  
U. S. Pipe & Foundry Co., Burlington, N.J.  
Virginia Bridge & Iron Co., Roanoke, Va.  
**STAINS (Shingle, Woodwork.)**  
**Cabot, Inc.**, Samuel, Boston, Mass.  
**STAIR TREADS.**  
**Central Iron & Steel Co.**, Harrisburg, Pa.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.  
**STANDPIPES.**  
**Chattanooga Boiler & Tank Co.**, Chattanooga, Tenn.  
**Chicago Bridge & Iron Wks.**, Birmingham.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
**STATIONERS (Envelopes, Letter and Billheads, etc.)**  
**Smith & Son Co.**, Oscar T., Baltimore, Md.  
Young & Selden Co., Baltimore, Md.  
**STEAM (Specialties.)**  
**Lunkenheimer Co.**, The, Cincinnati, O.  
Mueller Co., Decatur, Ill.  
**STEEL.**  
Bethlehem Steel Co., Bethlehem, Pa.  
Central Iron & Steel Co., Harrisburg, Pa.  
Dietrich Brothers, Baltimore, Md.  
Gulf States Steel Co., Birmingham, Ala.  
Jones & Laughlin Steel Corp., Pittsburgh, Pa.  
Oliver Iron & Steel Corp., Pittsburgh, Pa.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Virginia Bridge & Iron Co., Roanoke, Va.  
—(Alloy.)  
Timken Roller Bearing Co., Canton, Ohio.  
—(Cold Rolled.)  
American Steel & Wire Co., Balto., Md.  
—(Fabricators.)  
United Welding Co., Middletown, O.  
—(Special Analysis.)  
Timken Roller Bearing Co., Canton, Ohio.  
—(Tool, High Speed.)  
Bethlehem Steel Co., Bethlehem, Pa.  
—Buildings (Designers and Builders.)  
American Bridge Co., New York, N.Y.  
Belmont Iron Works, Philadelphia, Pa.  
Carolina Steel & Iron Co., Greensboro, N.C.  
Bichley, Jr., Co., John, Pittsburgh, Pa.  
McClinic-Marshall Co., Pittsburgh, Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Virginia Bridge & Iron Co., Roanoke, Va.  
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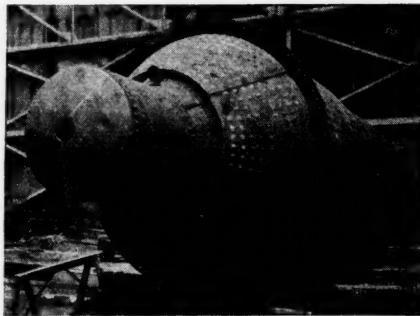
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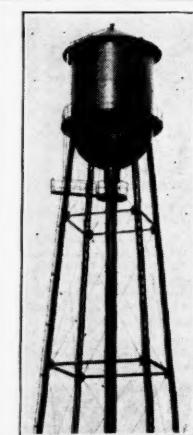
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Carolina Steel & Iron Co., Greensboro, N. C.

Central Iron & Steel Co., Harrisburg, Pa.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Chicago Bridge & Iron Wks., Birmingham.

Combustion Eng'r. Corp., New York City.

Downdowning Iron Works, Downdowning, Pa.

Hedges Walsh Weldner Co., Chattanooga, Tenn.

Ingalls Iron Works Co., Birmingham, Ala.

Lancaster Iron Works Inc., Lancaster, Pa.

Phoenix Iron Co., The, Phila., Pa.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Schofield's Sons Co., J. S., Macon, Ga.

Taylor Engr. & Mfg. Co., Allentown, Pa.

United Welding Co., Middletown, O.

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Alco Products, Inc., New York City.

### STOKERS (Mechanical.)

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Babcock & Wilcox Co., The, New York.

Combustion Eng'r. Corp., New York City.

Detroit Stoker Company, Detroit, Mich.

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Electric Storage Battery Co., Philadelphia.

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Butler Bin Co., Waukesha, Wis.

### STRINGERS (Bridge-Creosoted.)

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Belmont Iron Works, Philadelphia, Pa.

Bristol Steel & Iron Works, Inc., Bristol, Va.

Carnegie Steel Co., Pittsburgh, Pa.

Caroline Steel & Iron Co., Greensboro, N. C.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Converse Bridge & Steel Co., Chattanooga, Tenn.

Dietrich Brothers, Baltimore, Md.

Eichleay, Jr., Co., John, Pittsburgh.

Ingalls Iron Works Co., Birmingham, Ala.

Jones & Laughlin Steel Corp., Pittsburgh, Pa.

McClintic-Marshall Co., Pittsburgh, Pa.

Phoenix Iron Co., The, Phila., Pa.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Roanoke Iron & Bridge Works, Inc., Roanoke, Va.

Byers & Son, Inc., Jos. T., St. Louis and New York.

Snell Architectural Iron Works, Louisville, Ky.

Southern Engineering Co., Charlotte, N. C.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

Virginia Bridge & Iron Co., Roanoke, Va.

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Grasselli Chemical Co., Inc., Birmingham.

### SULPHIDE OF SODA.

Grasselli Chemical Co., Inc., Birmingham.

### SULPHURIC ACID.

Davison Chemical Co., The, Balto., Md.

De Pont de Nemours & Co., Inc., E. I. du Pont, Wilmington, Del.

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Babcock & Wilcox Co., The, New York.

### SURVEYS (Industrial.)

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Technical Service Co., New York, N. Y.

### (Quantity.)

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Titusville Iron Works Co., Titusville, Pa.

### (Elevated Steel.)

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Chattanooga Boiler & Tank Co., Chatta-

nooga, Tenn.

Chicago Bridge & Iron Wks., Birmingham.

Cole Mfg. Co., R. D., Newnan, Ga.

Pittsburgh-Des Moines Steel Co., Pitts-

burgh, Pa.

Schofield's Sons Co., J. S., Macon, Ga.

Virginia Bridge & Iron Co., Roanoke, Va.

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Davis & Son, G. M., Palatka, Fla.

### (Iron and Steel.)

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American Bridge Co., New York, N. Y.

Birmingham Tank Co., Birmingham, Ala.

Chattanooga Boiler & Tank Co., Chatta-

nooga, Tenn.

Chicago Bridge & Iron Wks., Birmingham.

Cole Mfg. Co., R. D., Newnan, Ga.

Downdowning Iron Works, Downdowning,

Pa.

Finnigan Co., Inc., J. J., Atlanta, Ga.

Lancaster Iron Works, Inc., Lancaster, Pa.

Lombard Iron Works & Supply Co., Au-

usta, Ga.

McClintic-Marshall Co., Pittsburgh, Pa.

Pittsburgh-Des Moines Steel Co., Pitts-

burgh, Pa.

Schofield's Sons Co., J. S., Macon, Ga.

Titusville Iron Works Co., Titusville, Pa.

Virginia Bridge & Iron Co., Roanoke, Va.

Westinghouse Traction Brake Co., Wil-

merding, Pa.

### (Mixing.)

Alco Products, Inc., New York, N. Y.

### (Pressure.)

Air-Tight Steel Tank Co., Pittsburgh, Pa.

Newport News Shipbuilding & Dry Dock Co., Newport News, Va.

### (Seamless Steel.)

Air-Tight Steel Tank Co., Pittsburgh, Pa.

National Tube Co., Pittsburgh, Pa.

### (Storage, Oil, etc.)

Biggs Boiler Works, Akron, Ohio.

Birmingham Boiler & Engr. Co., Bir-

mingham, Ala.

Chattanooga Boiler & Tank Co., Chatta-

nooga, Tenn.

Chicago Bridge & Iron Wks., Birmingham.

Downdowning Iron Works, Downdowning,

Pa.

Ingalls Iron Works Co., Birmingham, Ala.

Pittsburgh-Des Moines Steel Co., Pitts-

burgh, Pa.

Titusville Iron Works Co., Titusville, Pa.

United Welding Co., Middletown, O.

### (Welded.)

Welded Products Co. of La., Inc., New

Orleans, La.

### (Wood.)

Caldwell Co., Inc., W. E., Louisville, Ky.

Davis & Son, G. M., Palatka, Fla.

Virginia Mch. & Well Co., Richmond,

Va.

### TAPE (Measuring.)

Lufkin Rule Co., Saginaw, Mich.

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### TAX SPECIALISTS.

Ernst & Ernst, New York, N. Y.

### TELEPHONE SERVICE.

American Telephone & Telegraph Co.

### TENTS.

Fulton Bag & Cotton Mills, Atlanta, Ga.

### TEXTILE CHEMICALS.

Grasselli Chemical Co., Inc., Birmingham.

### TIES (Creosoted.)

American Creosoting Co., Louisville, Ky.

### TILE (Cement Roofing.)

Federal-American Cement Tile Co., Chi-

cago.

### (Cork Composition.)

Congoleum-Nairn Inc., Kearny, N. J.

### (Cork Flooring.)

Congoleum-Nairn Inc., Kearny, N. J.

United Cork Companies, Lyndhurst, N. J.

### (Floor.)

Hood Co., B. Mifflin, Daisy, Tenn.

### (Roof.)

Hood Co., B. Mifflin, Daisy, Tenn.

### (Sewer.)

Lee Clay Products Co., Clearfield, Ky.

### TIMBER (Creosoted.)

Amer. Creosote Wks., Inc., New Orleans.

Amer. Creosoting Co., Inc., Louisville, Ky.

### TIN AND TERNE PLATES.

American Sheet & Tin Plate Co., Pitts-

burgh, Pa.

Bethlehem Steel Co., Bethlehem, Pa.

Granite City Steel Co., Granite City, Ill.

Youngstown Sheet & Tube Co., Youngs-

town, Ohio.

### TOBACCO MACHINERY.

Ripley Foundry & Machine Co., Ripley, O.

### TOOLS (Measuring.)

Lufkin Rule Co., Saginaw, Mich.

### TOWERS (Electric Transmis-

American Bridge Co., New York, N. Y.

—(Steel and Wood.)  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Cole Mfg. Co., R. D., Newnan, Ga.

**TRACK** (Portable or Permanent.)  
Equipment Corp. of America, Chicago, Ill.  
Sweet's Steel Co., Williamsport, Pa.

**TRACTORS** (Industrial.)  
Atlas Car & Mfg. Co., The, Cleveland, O.  
Caterpillar Tractor Co., Peoria, Ill.  
Clark Tractor Co., Battle Creek, Mich.  
International Harvester Co. of America, Inc., Chicago, Ill.

—(Road.)  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Caterpillar Tractor Co., Peoria, Ill.

**TRAILERS** (Arch-Girder, Heavy Duty.)  
Williams Co., G. H., Erie, Pa.

**TRAMWAYS**, (Aerial Wire Rope.)  
American Steel & Wire Co., Balto., Md.

**TRANSFORMERS**.  
General Electric Co., Schenectady, N. Y.  
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

—(Used.)  
Electric Service Co., Cincinnati, O.

**TRANSMISSION TOWERS** (Galvanized.)  
McClintic-Marshall Co., Pittsburgh, Pa.

**TRENCH MACHINERY**. See Excavators (Trench.)

**TRI-SODIUM PHOSPHATE**.  
Grasselli Chemical Co., Inc., Birmingham.

**TRUCK CRANES**.  
Universal Crane Co., Lorain, O.

**TRUCKS** (Industrial.)  
Atlas Car & Mfg. Co., The, Cleveland, O.

—(Motor.)  
International Harvester Co. of America, Inc., Chicago, Ill.

—(Platform, Freight, Mill, Factory, etc.)  
Clark Tractor Co., Battle Creek, Mich.

**TUBES** (Boiler.) See Boiler Tubes.

**TUBING** (Seamless Steel.)  
National Tube Co., Pittsburgh, Pa.  
Timken Rolling Bearing Co., Canton, O.

**TURBINES** (Deep Well.)  
Cook, Inc., A. D., Lawrenceburg, Ind.

—(Hydraulic.)  
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.

Smith Co., S. Morgan, York, Pa.

—(Steam.)  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Delaval Steam Turbine Co., Trenton, N.J.

General Electric Co., Schenectady, N. Y.

Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

**TURNBUCKLES**.  
Russell, Burdsall & Ward Bolt & Nut Co., Port Chester, N. Y.

**TURNTABLES**.  
American Bridge Co., New York, N. Y.  
Virginia Bridge & Iron Co., Roanoke, Va.

—(Portable for Motor Trucks.)  
Blaw-Knox Co., Pittsburgh, Pa.

**UNIONS**.  
Dart Mfg. Co., E. M., Providence, R. I.

**VALVES**.  
Ludlow Valve Mfg. Co., The, Troy, N. Y.

Lunkenheimer Co., The, Cincinnati, Ohio.

Mercer Nordstrom Valve Co., San Francisco, Cal.

Mueller Co., Decatur, Ill.

Newport News Shipbuilding & Dry Dock Co., Newport News, Va.

Westinghouse Traction Brake Co., Willmerding, Pa.

—(Acid Proof.)  
Lunkenheimer Co., The, Cincinnati, Ohio.

(Gate.)  
Ludlow Valve Mfg. Co., The, Troy, N. Y.

Lunkenheimer Co., The, Cincinnati, Ohio.

Wood & Co., R. D., Philadelphia, Pa.

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York Safe & Lock Co., York, Penna.

**VENTILATORS** (Roof.)  
Merchant & Evans Co., Philadelphia, Pa.

**WARDROBES** (Hygienic, School.)  
Wilson Corp., The J. G., New York.

**WATCHMAN'S PORTABLE**

CLOCKS.  
Davis-Paradis Watchman's Clock Corp., New York, N. Y.

**WATER HEATERS**.  
Finnigan Co., Inc., J. J., Atlanta, Ga.

**WATERPROOFING** (For Brick, Concrete, Granite.)  
Headley Emulsified Products Co., Philadelphia, Pa.

Sonneborn, Sons, Inc., L., New York.

**WATER Purification.**  
Bacharach & Co., E. W., Kansas City, Mo.

Roberts Filter Mfg. Co., Darby (Phila.), Pa.

**Softening Apparatus** (Purifying.)  
American Water Softener Co., Phila., Pa.

International Filter Co., Chicago, Ill.

**Well Supplies.**  
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**Works Supplies and Applications.**

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Cast Iron Pipe Research Assn., Chicago.

Glamorgan Pipe & Fdry. Co., Lynchburg, Va.

Leadite Co., Philadelphia, Pa.

Mueller Co., Decatur, Ill.

U. S. Pipe & Foundry Co., Burlington, N. J.

Wood & Co., R. D., Philadelphia, Pa.

**WELDING.**

Charleston Dry Dock & Machine Co., Charleston, S. C.

Newport News Shipbuilding & Dry Dock Co., Newport News, Va.

United Welding Co., Middletown, O.

**WELDING APPARATUS** (Electric Arc.)

General Electric Co., Schenectady, N. Y.

Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

**WELL CONTRACTORS** (Oil, Artesian, etc.)  
Petersburg Machy. Pump & Well Co., Petersburg, Va.

Virginia Machy. & Well Co., Richmond, Va.

**WELL STRAINERS** (Brass.)  
Cook, Inc., A. D., Lawrenceburg, Ind.

**WHEELS AND AXLES.**  
Carnegie Steel Co., Pittsburgh, Pa.

**WINDOW Frames and Sash** (Metal.)  
Truscon Steel Co., Youngstown, Ohio.

**WINDOWS** (Bronze Casement.)  
Michael Art Bronze Co., Covington, Ky.

**WIRE** (All Kinds.)  
American Steel & Wire Co., Chicago.

Jones & Laughlin Steel Corp., Pittsburgh, Pa.

Eyverson & Son, Inc., Jos. T., St. Louis, and New York.

Seneca Wire & Mfg. Co., Fostoria, O.

—(Barbed Wire, etc.)  
American Steel & Wire Co., Balto., Md.

Gulf States Steel Co., Birmingham, Ala.

Youngstown Sheet & Tube Co., Youngstown, Ohio.

—(Fence.)  
Cyclone Fence Co., Waukegan, Ill.

Robertson Steel & Iron Co., W. F., Cincinnati, O.

Stewart Iron Works Co., Cincinnati, O.

—(Flat and Round.)  
American Steel & Wire Co., Balto., Md.

Roebling's Sons Co., John A., Trenton, N. J.

Seneca Wire & Mfg. Co., Fostoria, O.

—(Galvanized and Annealed.)  
Gulf States Steel Co., Birmingham, Ala.

Seneca Wire & Mfg. Co., Fostoria, O.

—(Cloth (Iron, Steel, Copper, Brass, etc.)  
Harrington & King Perf. Co., Chicago.

Newark Wire Cloth Co., Newark, N. J.

Roebling's Sons Co., John A., Trenton, N. J.

Seneca Wire & Mfg. Co., Fostoria, O.

—(Goods.)  
Cyclone Fence Co., Waukegan, Ill.

—(Rope (Transmission, Hoisting, Haulage.)  
American Steel & Wire Co., Chicago, Ill.

Roebling's Sons Co., John A., Trenton, N. J.

—(Rope Clips.)  
American Steel & Wire Co., Balto., Md.

—(Stapling.)  
Seneca Wire & Mfg. Co., Fostoria, O.

—(Telephone and Telegraph.)  
American Steel & Wire Co., Balto., Md.

—(Welding.)  
American Steel & Wire Co., Chicago, Ill.

Roebling's Sons Co., John A., Trenton, N. J.

Seneca Wire & Mfg. Co., Fostoria, O.

**ZINC CHLORIDE.**  
Grasselli Chemical Co., Inc., Birmingham.

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Gulf States Creos. Co., Hattiesburg, Miss.

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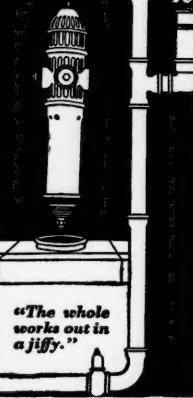
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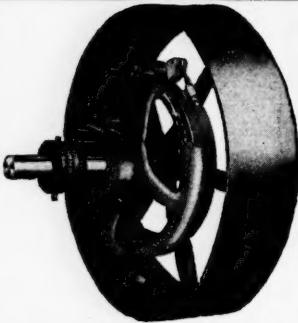


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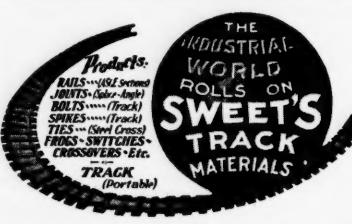
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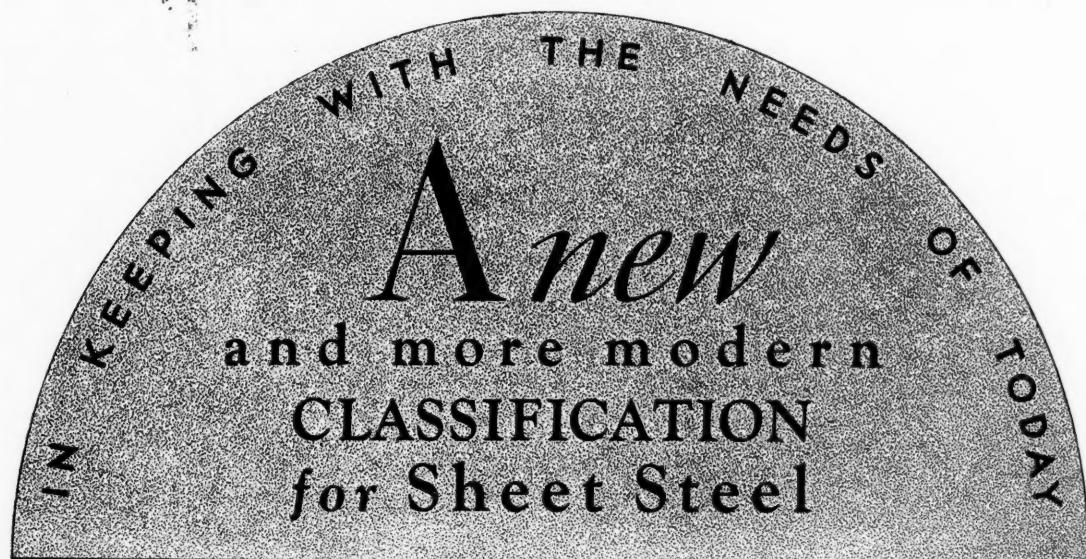
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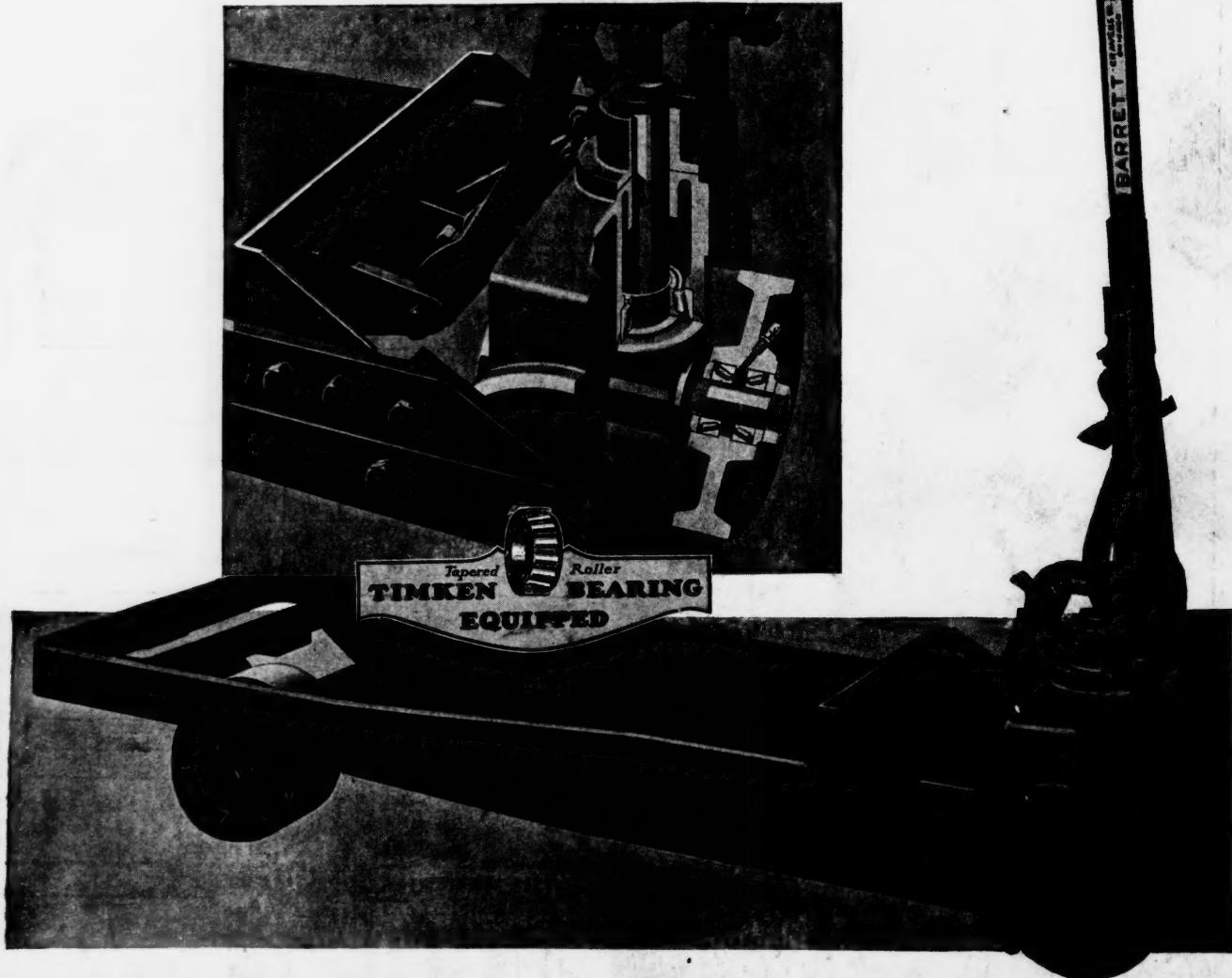
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